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Author(s): Joel Snyder and Neil Walsh Allen

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Photography, Vision, and Representation

Joel Snyder and Neil Walsh Allen

I

Is there anything peculiarly “photographic” about photography—something which sets it apart from all other ways of making pictures? If there is, how important is it to our understanding of photographs? Are photographs so unlike other sorts of pictures as to require unique methods of interpretation and standards of evaluation? These questions may sound artificial, made up especially for the purpose of theorizing. But they have in fact been asked and answered not only by critics and photographers but by laymen. Furthermore, for most of this century the majority of critics and laymen alike have tended to answer these questions in the same way: that photographs and paintings differ in an important way and require different methods in interpretation precisely *because* photographs and paintings come into being in different ways. These answers are interesting because, even within the rather restricted classes of critics, photographers, and theorists, they are held in common by a wide variety of people who otherwise disagree strongly with each other—by people who think that photographs are inferior to paintings and people who think they are (in some ways, at least) superior; by people who believe that photographs ought to be “objective” and those who believe they should be “subjective”; by those who believe that it is impossible for photographers to “create” anything and by those who believe that they should at least try.

Our purpose here is not to show that these answers are always, in every case, wrong, or that there is never anything to be gained by differentiating between photography and other visual arts, or that questions about how photographs come into being are never appropriate to any investigation. But we do want to suggest that they are a very small

part of the story and that they have been supported by definitions of the “nature” of photography and the way it works which are misleading at the very least, and are more often quite simply wrong. But to appreciate just what it is that modern critics and laymen believe about photography, it might be instructive to go back a step and take a look at a different notion of what photography is all about.

In 1889, Peter Henry Emerson, a physician and one of the finest photographers of his time, set down his prescriptions for photographers in a pamphlet entitled, *Naturalistic Photography for Students of the Art*.¹ Emerson assumes that photographs are first and foremost *pictures*, and that like other pictures they may serve to provide information (the “scientific division”) or to provide aesthetic pleasure (the “art division”). The aim of the artistic photographer is not different from the aim of the artist in other media such as oil painting or charcoal; for Emerson, this aim is “naturalistic” representation. By naturalism, Emerson meant the representation of a scene in such a way as to be, as much as possible, identical with the visual impression an observer would get at the actual spot from which the photograph was made. Thus, much of his argument is devoted to a discussion of the characteristics of human vision, based on the research of Von Helmholtz, and the application of this knowledge to the selection and use of a lens so that its “drawing power” would render a scene with “natural” perspective and with the correct amount of detail, suitably distributed throughout the various planes of the scene. The “students of the art” are warned against an excess amount of definition, which is both untrue to our senses and “artistically false” even though it may be “scientifically true.” In addition, one must expose, develop, and print photographs so as to have a “natural” relation among the tones—the student is cautioned to avoid the commercially successful heresy of “pluckiness” or “snap” (contrast), the enemy of artistic truth. These strictures on practice are useless unless the photographer is familiar with the principles of naturalistic art; therefore, Emerson includes a sort of walking tour of the British Museum in one chapter, telling students which exhibits are to be admired and why.

Although Emerson’s program of “naturalism” was not universally accepted, the basic notion that photographs were representations, and should be understood and judged as were other kinds of representations, was quite widespread. Thus, in 1907, the critic Charles Caffin

1. Peter Henry Emerson, *Naturalistic Photography for Students of the Art* (London, 1889; facsimile ed. of 1890 ed., New York, 1972).

Joel Snyder teaches criticism and history of photography at the University of Chicago and is presently compiling a book of his own photographs. **Neil Walsh Allen** produces educational audio-visual materials and has designed eight permanent exhibits on the history and applications of photography for the Smithsonian Institution.

writes, "This group of 'advanced photographers' is striving to secure in their prints the same qualities that contribute to the beauty of a picture in any other medium, and ask that their work be judged by the same standard."²

But critical opinion was shifting even as Caffin wrote. The consensus of modern critics is that photographs differ from other sorts of representations in a fundamental way and that special theoretical principles and critical standards are necessary to account for them. The philosopher Stanley Cavell expresses this difference in the following way: "So far as photography satisfied a wish, it satisfied a wish not confined to painters, but the human wish, intensifying since the Reformation, to escape subjectivity and metaphysical isolation—a wish for the power to reach this world, having for so long tried, at last hopelessly, to manifest fidelity to another. . . . Photography overcame subjectivity in a way undreamed of by painting, one which does not so much defeat the act of painting as escape it altogether: by *automatism*, by removing the human agent from the act of reproduction."³ Photographs are not simply different from other kinds of pictorial representation in certain detailed respects; on the contrary, photographs are not really representations at all. They are the practical realization of the general artistic ideals of objectivity and detachment. The use of a machine to lay down lines and the reliance on the natural laws of refraction and chemical change to create pictures are viewed as the decisive differences leading the critic André Bazin to proclaim, ". . . the essential factor in the transition from the baroque to photography is not the perfecting of a physical process . . . rather does it lie in a psychological fact, to wit, in completely satisfying our appetite for illusion by a mechanical reproduction in the making of which man plays no part. The solution is not to be found in the result achieved but in the way of achieving it."⁴ Stated in the most general terms, the modern position is that in photography there are certain necessary connections between a photograph and its "real life" original which simply do not (and perhaps cannot) exist in the "traditional" arts. But just what are these guarantees, and how important are they for our understanding of photographs?

We will examine the way one modern theorist, Rudolf Arnheim, has recently formulated answers to these questions. Arnheim's exposition is interesting for two reasons: First, it is more complete and covers more ground than many other treatments of the subject; second, it is to some extent a recantation of his earlier work, *Film as Art*.⁵ This book contained

2. Charles H. Caffin, *Photography as a Fine Art* (New York, 1901; facsimile ed., Hastings-on-Hudson, N.Y., 1971), p. vii.

3. Stanley Cavell, *The World Viewed* (New York, 1971), pp. 21, 23.

4. André Bazin, *What Is Cinema?* (Los Angeles and Berkeley, 1967), p. 12.

5. Rudolf Arnheim, *Film als Kunst* (Berlin, 1932); *Film as Art* (Los Angeles and Berkeley, 1957).

a lengthy discussion of how photography could escape from being “a mere mechanical copy of nature” and thus, in Arnheim’s view, claim the stature of a true art:

The strategy was therefore to describe the differences between the images we obtain when we look at the physical world and the images perceived on the motion picture screen. These differences could then be shown to be a source of artistic expression. In a sense it was a negative approach because it defended the new medium by measuring it according to the standards of the traditional ones. . . . Only secondarily was I concerned with the positive virtues that photography derives precisely from the mechanical quality of its images.⁶

In his recent article, Arnheim bases his argument squarely on the “mechanical” origin of photographic images. “All I have said derives ultimately from the fundamental peculiarity of the photographic medium: the physical objects themselves print their image by means of the optical and chemical action of light” (p. 155). Because of this fundamental peculiarity, photographs have “an authenticity from which painting is barred by birth” (p. 154). In looking at photographs, “we are on vacation from artifice” (p. 157). We expect to find a certain “documentary” value in photographs, and toward this end we ask certain “documentary questions”: “Is it authentic?” “Is it correct?” and “Is it true?” (p. 157).

Certain ethical and stylistic consequences follow from the close connection between photography and “physical reality” or “the facts of the moment.” The picture taker is on slippery ethical ground since “the photographer is part of the situation he depicts” and his picture, like the photon in atomic physics “upsets the facts on which it reports” (pp. 152, 151).

Old-time photographers benefited from the slowness of the early photographic processes since they could portray people with an “enviable timelessness” that “transcended the momentary presence of the portrayed objects” (pp. 150, 154).

More modern processes are capable of preserving “the spontaneity of action,” although they may exhibit “the incompleteness of the fraction of a second lifted from the context of time” (p. 151). To portray the anxiety of man “in need of a *persona*, concerned with his image,” all that the modern documentarian needs is “persons acknowledging the presence of the photographer” (p. 155). Finally, should a photographer develop a hankering for surrealistic effects, he need only pose some naked people in a forest, a living room, or an abandoned cottage: “Here was indubitably real human flesh, but since appearances of nude figures

6. Rudolf Arnheim, “On the Nature of Photography,” *Critical Inquiry* 1 (September 1974): 155. Hereafter, page numbers in the text refer to this article.

were known only from the visions of painters, the reality of the scene was transfigured into a dream" (p. 154).

Of course, compared with painting, photographs suffer from the same deficiencies that "physical reality" or "the world" itself does. They lack the "formal precision" and "expressive freedom" which the "private visions" of the painter possess. Photographs are tied to the world which is "irrational" and "incompletely defined." By its very nature, photography "limits the creations of the mind by powerful material constraints" (p. 160). But regrettable as these constraints may be "from the point of view of the painter, the composer, or the poet," they are "an enviable privilege" when we consider photography's "function in human society" (p. 160).

Arnheim shies away from what he takes to be the most extreme modern doctrine that the "photographic image is nothing but a faithful copy of the object." He insists that the process of photography injects its own "visual peculiarities" into the final picture, and that the picture must somehow "acquire form at its primary level" in order to communicate "its message" (pp. 155-56). But, oddly enough, the "visual peculiarities" of photographs serve as a sort of rhetorical reassurance; they make their audience aware that it is indeed a photograph they are looking at and not some sort of *trompe l'oeil* painting. In regard to form, a photograph is a compromise between nature and the "formative power" of man, a "compromise" or "coproduction" (pp. 156, 157, 159-60). Just as in Arnheim's theory, human visual perception "organizes and structures the shapes offered by the optical projections in the eye . . . in a photograph, the shapes are selected, partially transformed, and treated by the picture taker and his optical and chemical equipment" (p. 159). Unlike other kinds of pictures, photographs are not entirely "made and controlled by man" but are "mechanical deposits of light" which reflect, as no other kind of imagery can, the "visual accidents of a world that has not been created for the convenience of the photographer" (p. 158). The very shortcoming of photography—its inability to attain the formal perfection of the other visual arts—is simply the obverse of photography's cardinal virtue—its ability to embody "the manifest presence of authentic physical reality" (p. 159).

Before examining these doctrines closely, it should be emphasized that Arnheim is not advancing anything very new or different here. Siegfried Kracauer and André Bazin, two critics whom Arnheim cites with approval, have advanced rather similar positions, and writers as diverse as Etienne Gilson, R. G. Collingwood, Stanley Cavell, William M. Ivins, and E. H. Gombrich⁷ have all used photography as a benchmark

7. Etienne Gilson, *Painting and Reality* (London, 1957), pp. 242-46; R. G. Collingwood, *The Principles of Art* (New York, 1958), pp. 53-55; Cavell, pp. 16-25; William M. Ivins, Jr., *Prints and Visual Communication* (Cambridge, Mass., 1973), pp. 121-22, 177-78; E. H. Gombrich, *Art and Illusion* (New York, 1960; 2d ed., Princeton, N.J., 1969), pp. 67-73.

of “pictorial fact” against which to measure more traditional pictorial media.⁸ Nor are Arnheim’s views confined to a small circle of specialists. Most people, if asked, would no doubt say that, whereas the painter can paint whatever he wants, the photographer must depict “what is there.” The painter creates, the photographer “finds” or “captures” or “selects” or “organizes” or “records” his pictures. Needless to say, many photographers would agree with Arnheim as well. Of course, some people think that an intimate connection with physical reality is a very fine thing indeed, and others do not; some believe that photographers should accentuate “visual peculiarities” such as film grain and wide-angle lens distortion, while others are more conservative; some believe that photographers should try to “interpret” the world, and others believe that any “interpretation” is heretical. But these disagreements are minor when one considers the broad areas of agreement within which they arise. For example, even when the director of the Department of Photography at the Museum of Modern Art attempts to show that photographers can produce the kind of “private visions” that Arnheim assigns to the traditional artist, he insists that photography is a “different kind of art,” unrelated to traditional types but closely related to perception.⁹

Arnheim describes himself as a “media analyst,” not a critic, but despite this disclaimer, we must point out that he makes criticism of photographs difficult if not impossible. And since his views are held by critics and their audience as well, it is not surprising that there is very little intelligent criticism of photography. We are told that when we look at a photograph we are on “a vacation from artifice”—but *should* we be on vacation? We are told that a photograph is a “coproduction of nature and man”—but is this coproduction along the lines of Michelangelo and a piece of marble, or a geneticist and breeds of corn, or some other sort of coproduction altogether? We are told that it is wrong to look at a photograph as though it were “made and controlled by man”—but what might we discover if we did look at photographs in just that way? In addition, we might ask whether Arnheim’s “acknowledged fact” that “the physical objects themselves print their image” is really a fact at all, and whether the photographic process itself really guarantees much of anything about the relation between image and imaged.

It is odd that modern critics who believe that the photographic process should be the starting point for criticism have had very little to say about what the process is, how it works, and what it does and doesn’t guarantee. Aside from the simple notion of automatism, two models of

8. However, Gilson’s opposition is between “picturing” and painting; Collingwood says that by using “tricks” the photographer can escape from “literal representation”; Ivins is more concerned with reproducing pictures than with making originals. But only Gombrich entertains real doubts about the usual reference to photography to settle questions of pictorial fact (pp. 34, 36).

9. John Szarkowski, “Photography—a Different Kind of Art,” *New York Times Magazine* (April 13, 1975).

how photography works have been used, or at least assumed. One of these, which we will call the "visual" model, stresses the supposed similarity between the camera and the eye as optical systems, and posits that a photograph shows us (or ought to show us) "what we would have seen if we had been there ourselves." The other version of how photography works we will call the "mechanical" model. It stresses the necessary and mechanical connections which exist between what we see in a photograph and what was in front of the camera. According to this model, a photograph may not show us a scene as we ourselves would have seen it, but it is a reliable index of what *was*. Writers on photography have often treated these models as though they were identical, or as though one were contained within the other, but this is not the case, and such assumptions gloss over the basic challenge to any theory which attempts to find the meaning of photographic images by referring to their origins—the challenge of extracting pictorial meaning from the operation of natural laws.

II

The photographic process consists of the more-or-less permanent recording of an image made by a camera. The use of cameras with lenses for making pictures was first described by Giovanni Battista della Porta in the second edition of his book *Magica Naturalis*, published in 1589. Cameras were used by draughtsmen and painters, including Canaletto and probably Vermeer as an aid in rendering perspective and detail. By the time Niepce, Daguerre, and Fox Talbot began to try to fix the camera image, cameras had been used by artists for more than 200 years, and the requirements of "traditional" art had already influenced their design; whereas a round lens "naturally" creates a circular image (fig. 1) which shades off into obscurity around its circumference, the portable *camera obscura* of the early nineteenth century was fitted with a square or rectangular ground glass which showed only the central part of the image made by the lens.

A camera image, especially one seen on the ground glass of a large-format camera, is almost magically lifelike: colors seem "natural" yet intense and every motion in front of the camera is seen in the image as well. It is difficult to find a term describing the relation between what was in front of the camera and the image which does not predetermine the results of any investigation into that relation. We will use the words "characterization" and "characterize" to describe both individual steps and aspects of the photographic process (a given lens characterizes things in greater or lesser detail than another lens) and also the end result of the process (a photograph is a characterization of something). A characterization may be accurate or inaccurate, may refer to something

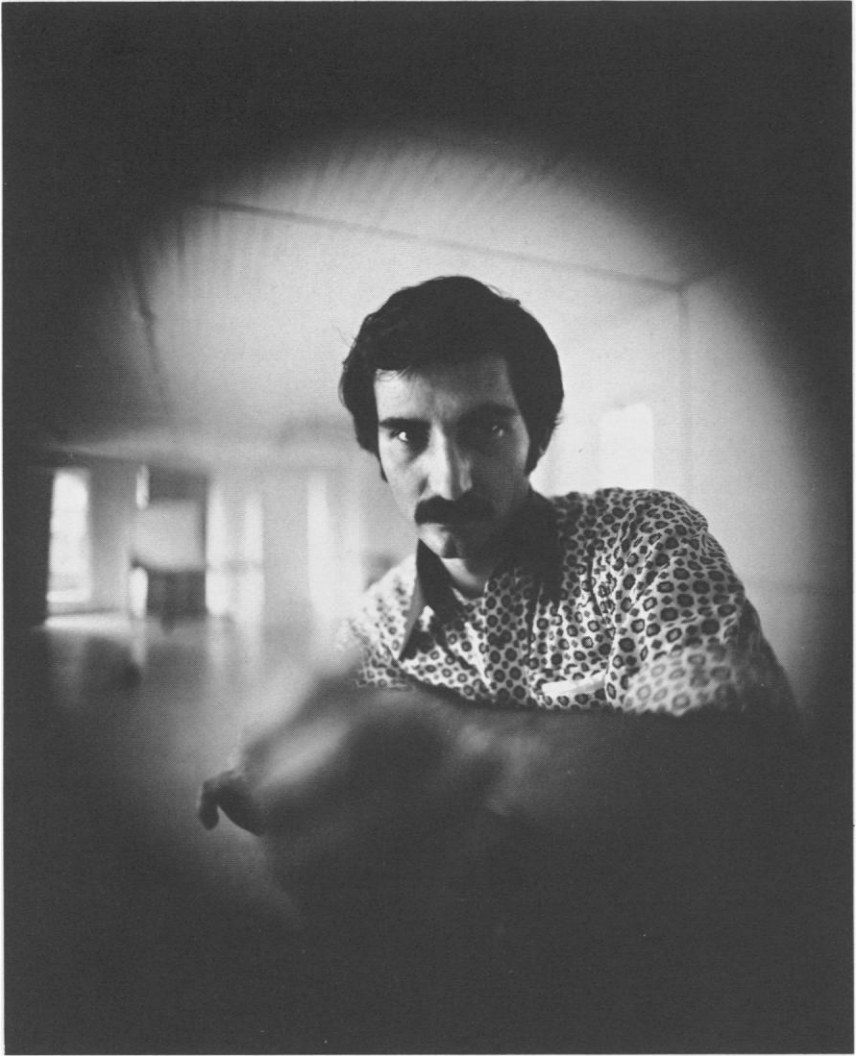


FIG. 1.—Complete image area of photographic lens

real or that is conjured up; it may be valuable because it refers to something else or have value as a thing in itself; and, finally, certain kinds of characterizations, such as maps, may be valuable for the most part in only one way, for their accuracy, whereas other kinds of characterizations, such as drawings, may be valuable in many different ways—for their factual content, or as souvenirs, or as art.

A photographer—even a Sunday snaphooter—makes a number of characterizations by his choice of equipment and how he uses it. He may

not consider each one in detail on every occasion, and in a simple snapshot camera (and subsequently, in drug-store processing) these characterizations are “built in”—but they are still there. Some of these characterizations determine the amount of detail that will appear in the picture. A lens may be able to resolve very fine detail, or it may be inherently “soft.” The lens must be focused on a single plane in front of the camera. Sharp focus will extend behind and in front of this plane to varying degrees, depending on the focal length of the lens, the size of the image area and extent of enlargement in printing, and the size of the lens opening—a phenomenon called “depth of field.” The camera must also be placed in a definite position, which will establish a point of view for the image.

The position of the camera effects further characterizations; once again, this holds true whether the position of the camera is carefully planned by the photographer, or whether the camera goes off by accident when dropped, or whether the camera is built into a booth and goes off automatically when people feed coins into a slot. The camera position will determine whether one of two objects within the camera’s field of view will be to the right or the left, in front of or behind, another object. Together with the choice of lens, the camera position will determine the size and location of individual objects both in relation to the total image area and to each other. Thus, given a man standing in a room, the photographer can characterize the scene so that the man appears to dominate his environment or to be dominated by it.

With these kinds of characterizations in mind, Arnheim’s notion that “the physical objects themselves print their image” seems more like a fanciful metaphor than an “acknowledged fact.” It is the light reflected by the objects and refracted by the lens which is the agent in the process, not “the physical objects themselves.” These “physical objects” do not have a single “image”—“their image”—but, rather, the camera can manipulate the reflected light to create an infinite number of images. An image is simply not a property which things naturally possess in addition to possessing size and weight. The image is a crafted, not a natural, thing. It is created out of natural material (light), and it is crafted in accordance with, or at least not in contravention of, “natural” laws. This is not surprising. Nor is it surprising that something in the camera’s field will be represented in the image; but how it will be represented is neither natural nor necessary.

What we have called the “visual” model of the photographic process is another way of trying to flesh out the bare bones of photography’s alleged “intimate involvement” with “physical reality.” No doubt this model originated in, and retains its plausibility because of, the supposed resemblance of the human eye with its lens and retina to the camera with its lens and film. But once this resemblance has been stated, the model fails to establish anything further. The notion that a photograph shows

us “what we would have seen had we been there ourselves” has to be qualified to the point of absurdity. A photograph shows us “what we would have seen” at a certain moment in time, *from* a certain vantage point *if* we kept our head immobile *and* closed one eye *and if* we saw with the equivalent of a 150-mm or 24-mm lens *and if* we saw things in Agfacolor or in Tri-X developed in D-76 and printed on Kodabromide #3 paper. By the time all the conditions are added up, the original position has been reversed: instead of saying that the camera shows us what our eyes would see, we are now positing the rather unilluminating proposition that, if our vision worked like photography, then we would see things the way a camera does.

The camera-eye analogy is no more helpful for people investigating human vision than it is for the investigator of photographs. The more the supposed analogy is investigated, the more convincing becomes the conclusion that we do not possess, receive, or even “make” *an image* of things when we see—that there is nothing corresponding to a photographic image formed in one place which is then inspected or interpreted. Images are indeed formed on the retina of the eye, but they do not answer functionally to the image at the film plane of a camera. In the living, active eye, there is nothing that can be identified as *the* retinal image, meaning by that a persisting image that is resolved on one definite topographical portion of the retina. Rather, the image is kept in constant involuntary motion: the eyeball moves, the image drifts away from the fovea and is “flicked” back, while the drifting movement itself vibrates at up to 150 cycles per second.¹⁰ Amidst all this motion, is there one privileged image to set beside a photograph for comparison? At the material level (the level at which arguments about photography are usually pitched), the two processes are simply incommensurate. We might, of course, identify the end result of vision—“what we see”—as *the* image. But unless the camera-eye analogy works at some simpler level, why should we call what we see an “image” at all?¹¹

For these reasons, there are great difficulties, not only with theories which equate photography with vision, but also those which equate it with half-digested vision.¹² Similarly, there is little choice between theories which find the artistic merit or value of photographs in their closeness to human perception¹³ or in their departure from it.¹⁴ The

10. Roy M. Pritchard, “Stabilized Images on the Retina,” *Scientific American* (June 1961); reprinted in *Perception: Mechanisms and Models*, ed. Richard Held and Whitman Richards (San Francisco, 1972).

11. “Images” may be thought necessary to explain the difference between what I see and what my cat sees. But is such a noun absolutely necessary even in this case? I hear differently from my cat; I also eat differently and walk differently. Must there be entities in these cases also, which take no human or feline form, or are endowed with human or feline properties?

12. Arnheim, “On the Nature of Photography,” p. 159.

13. Emerson, p. 114.

14. Arnheim, *Film as Art*, p. 127; Szarkowski, p. 65.

problem is that all such theories presuppose some standard or baseline of retinal correctness from which “artistic” or “good” photography either ought or ought not to depart—but that standard or baseline does not exist.

If anything, Emerson’s conscientious attempt to duplicate characteristics of human vision strikes us today as “impressionistic” or even “arty” rather than as “natural” in any definitive sense of that word (figs. 2, 3). We are just as likely or even more likely to accept as “natural” a photograph that renders much more detail throughout than Emerson’s procedure allows. This variety of standards of optical “truth” is not unique to photography; neither is the difficulty of guaranteeing “natural” relationships between a picture and its real-life original. E. H. Gombrich has dealt with the problems at length.¹⁵ He states that illusionistic images are not those *derived* from nature but, instead, are those which have been so made that under certain conditions they will confirm certain hypotheses which one would formulate, and find confirmed, when looking at the original scene. Thus, given our immobile, one-eyed viewer, it may be possible to construct some sort of representation (by photography, painting, or tracing on a pane of glass) which will show him some of the same shapes, or the same relative brightness values or relative color values that he would perceive “directly” from nature, without representation. But representations suggest to us fewer hypotheses capable of confirmation or refutation. The celebrated rabbit-duck figure always remains ambiguous. There are no additional hypotheses to formulate and test (as we might do when confronted by ambiguous-looking things in real life). We do not, as we might in “real-life” cases, say at the end of careful scrutiny: “Aha—it really is a duck after all, though I can see why I thought at first that it might be a rabbit.” Furthermore, representations can be made so as to confirm certain hypotheses (about meaning, relationships, and so on) which we would never think of formulating about their real-life counterparts. Perhaps all this is what Arnheim means when he says that in photography, unlike vision, “the shapes have been selected, partially transformed and treated . . .”¹⁶—but it’s hard to find anything specifically “photographic” about that interpretation.

The visual model of the photographic process is of only limited value as a way of describing how we react to photographs (as opposed to “traditional” works of art) as well. Julia Margaret Cameron’s photograph of Alice Liddell (fig. 4) was made by placing the camera considerably below Miss Liddell’s eye level. In looking at the photograph, do we really duplicate the camera position in our imagination—do we believe that we are shorter than Miss Liddell, or that we are stooping down or squatting in front of her? Only in a vague and metaphorical sense. The experience is much more like looking at a painting in many respects. When we look

15. Gombrich, pp. 33–62, 87–90.

16. Arnheim, “On the Nature of Photography,” p. 159.



FIG. 2.—“Gathering Water Lilies” by P. H. Emerson. Courtesy of Art Institute of Chicago.

FIG. 3.—Actual size detail of
“Gathering Water Lilies.”



at a painting of a figure that dominates the canvas, depicted from the point of view that Mrs. Cameron used, we do not mentally reconstruct the actual scene in the artist's studio and the peculiarities of the artist's cornea, retina, and optic nerve which allowed him, or forced him, to depict the figure as he did. Instead, our immediate reaction is that we are looking at a proud, haughty person, and on analysis we conclude that the artist used a certain manner of depiction in order to give us that impression. It seems silly not to make the same assumption about Mrs. Cameron.



FIG. 4.—“Pomona” (Alice Liddell) by Julia Margaret Cameron. Courtesy of the Permanent Collection of Photography, Exchange National Bank of Chicago.

The problems of photographing “what we see” are substantial, and the solutions only partial, when “what we see” consists of stationary dry goods. When we turn to the problems of photographing things that move or even might move, the visual model breaks down completely. Let’s consider how we might photograph horses running a race. We can keep the camera stationary and use a slow shutter speed: the horses will appear as blurs against a stationary background. We can “pan” the camera with the horses and use a somewhat faster shutter speed: the horses will be somewhat sharper and the background blurred. We can use an extremely fast shutter speed and “freeze” the horses against a stationary background. All these methods are commonly used and accepted ways of photographing moving things. But we don’t see motion in any of these ways; we see things move. When Eadweard Muybridge succeeded in “freezing” rapid motion—to settle a bet as to how horses galloped—his results were met with dismay by artists, photographers, and the general public alike as being “unnatural” and “untrue.” This was not an expression of doubt in the veracity of Muybridge’s results but, instead, a perception that the results lay outside of common visual experience, and outside of the conventions of representation that obtained at the time. People believed that horses might indeed gallop as Muybridge had photographed them, but the proposition could only be confirmed by other photographs, not by direct observation.

If photographic characterizations of motion display a unique character trait of the medium, as Arnheim says,¹⁷ then this trait is that a photograph is a still picture. It is a peculiarity shared with other, traditional media, but not with normal vision. Like other media, photography must resort to conventions to represent motion. Since conventions are multiple, it is no surprise that there are several different ways of representing motion with photography, or that photographers have developed conventions of representation that depart from the pre-photographic norms. And these conventions do not necessarily operate in total isolation from our practical, day-to-day experience with things. It is our practical knowledge which helps us interpret a fuzzy patch in a photograph as representing motion, rather than something rendered out-of-focus or even something “naturally” fuzzy (such as fog or lint) rendered in sharp focus. If a photographer wishes to capture (or avoid) the “incompleteness of a fraction of a second,” he must do more than use (or eschew) a fast shutter speed. He must also analyze his subject and be aware of the expectations of his audience. Conversely, the slowness of early photographic materials was insufficient by itself to produce an “enviable timelessness” or to depict “the abiding nature of motion.” All too often early photographs showed instead the restless nature of enforced immobility, and “natural”-looking portraits were attributed to the

17. *Ibid.*, p. 151.

photographer's artistry, technical virtuosity, or sometimes to his hypnotic powers over his subjects.

It can be asserted, of course, that while photographs do not always show us a scene as we would have seen it, they are, because of their mechanical origin, an accurate record of the scene as it actually was. Thus, although we did not see blurred horses or a blurred background or horses frozen in midstride as we watched the horserace, there is a causal explanation for all of these—they are the inevitable outcome of the facts of the situation. The horses actually did assume a certain posture at a certain time; the motion of the horses or the camera or both bear a causal relation to the blurs we see in the photograph. This sort of approach would certainly allow us to say that certain photographs are "natural" or "objective" even though it was obvious that they showed things which we never had seen and never were likely to see.

To the extent that the mechanical model holds that a camera is a certain sort of extension or expansion of our normal visual experience along certain lines, it seems quite plausible. For instance, when we see a horse "frozen" in mid-gallop in a photograph, we have no reason to doubt that, at a certain moment, the horse "really" assumed that posture. Here we are simply extending and modifying the notion that the camera is an eye. We are assuming that, if we could see a horse in full detail in a thousandth of a second, he would look like this. But the blurred horse we see in a time exposure is another matter. Here we do not assume that the galloping horse ever "really" became a blur at all. We assume, instead, that the horse "really" galloped and that this galloping plus perhaps the movement of the camera and the peculiarities of the film resulted in the horse being characterized as an equine blur. Thus the photograph is not a substitute for vision, not even a modified or extended form of vision, but simply the inevitable outcome of a certain series of events. No doubt it is this sense of inevitability, this feeling that a photograph is the end result of a series of cause-and-effect operations performed upon "physical reality," that inclines us to impute a special sort of veracity to photographs—an "authenticity from which painting is barred by birth," to use Arnheim's phrase. After all, a photograph can be used to settle matters of fact and establish scientific truth. No matter how great the photographer's range of controls, no matter how labyrinthine the path from scene to image, one can always find mechanical connections between the two. The question is whether these mechanical connections are really important to us when we look at and try to understand the final picture.

Let us consider another equestrian example, one which is universally agreed to be an impartial record of the finish of a horserace (fig. 5). As the horses near the finish line, the operator of the photofinish camera flicks a switch which starts a motor. The motor pulls film smoothly past a razor-thin vertical slit in a metal plate near the film plane of the camera.

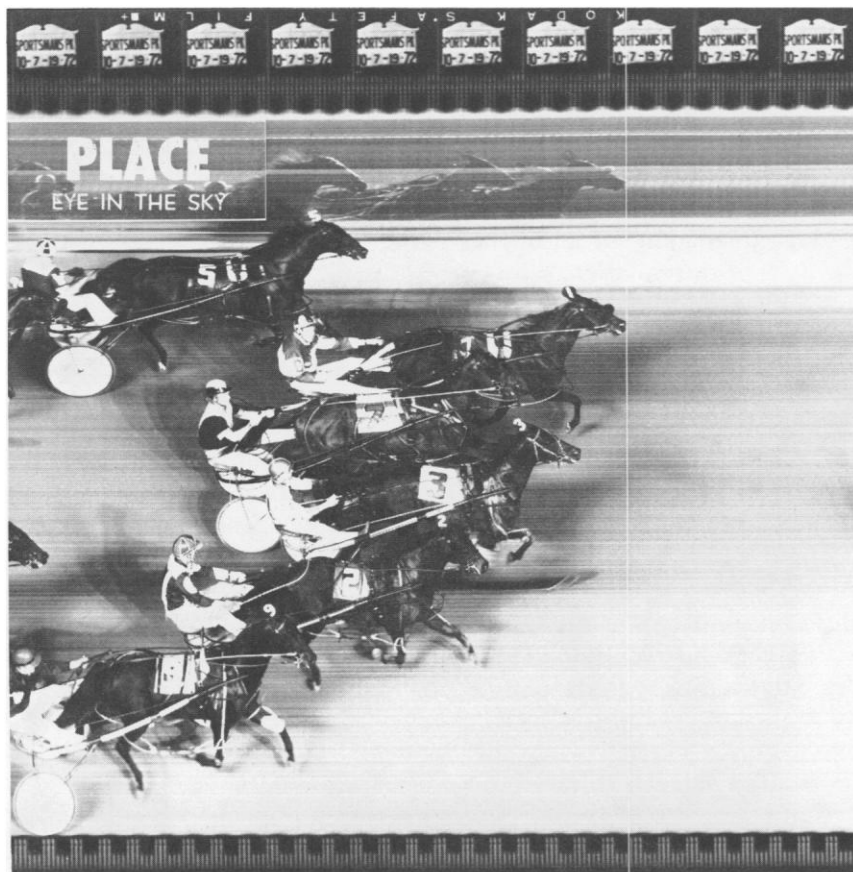


Fig. 5.—Photofinish. Courtesy of Sportsman's Park and Eye-in-the-Sky

No shutter interrupts the light on its way to the film while the camera is running, so the final result will be a single still picture. As long as nothing moves past the finish line, all that is recorded on the moving streak is a vertically patterned blur. But as the nose of the winning horse crosses the finish line, it is recorded, and the process continues as the horse's neck and legs cross, and as all the other horses cross.

This single picture shows the exact order of finish of all the horses in the race. It would be impossible to show this in a conventional, "instantaneous" photograph, since although it might be clear which horse got to the finish line first, the photograph would not show which of two close contenders actually finished second or third. With the photofinish camera, it's all very easy: whatever horse is seen to be to the right of another horse was recorded on the film first and therefore reached the finish line before the other horse. Of course in making the prints to be shown to the crowd, the camera operator has to put in an artificial "finish

line" on the nose of whatever horse is in contention, but there is no great deception here, since every point in the photograph is the finish line. Furthermore, the speed with which the film moves past the slit is usually set to correspond roughly with the speed with which the images of the horses will move past the slit: otherwise, the horses might appear greatly elongated or greatly compressed in the final print. Neither compression nor elongation would make much difference in determining which horse finished when, but it might upset the crowd.

Of course, once we know how a photofinish picture is made, it upsets *us*. We are accustomed, when we see five horses occupying five different positions in a photograph to think that we are looking at a picture of five horses that were all in different places at the same time. In a photofinish, we see five horses that were at the same place at different times. When we look at the nose and tail of a single horse in the picture, we are still looking at things which were recorded as they occupied the same place at different times. As we move from left to right across the picture, we are not looking at distance, but at time. We do not know how far the winning horse was ahead of the place horse at the time he crossed the finish line—all we know is that it took a certain amount of time for the place horse to cross the finish line after the winner.

There is no doubt that the photofinish is an accurate characterization of the finishing order of horses in a race and no doubt that this accuracy derives from the mechanisms of the camera, laws of optics and chemistry, and so on. But the way in which the picture is made has little to do with the way we normally interpret it. The photofinish looks like a snapshot taken at the end of a race, and no amount of knowledge about photofinish cameras can supplant this interpretation with another one. The picture seems "realistic" or "natural" or to display "the manifest presence of authentic physical reality" in spite of the way in which it was made, in spite of the fact that what the photograph actually manifests is far from what we normally take "physical reality" to be. The mechanical relations which guarantee the validity of the photograph as an index of a certain kind of truth have been almost completely severed from the creation of visual likeness.

It might be objected that the photofinish is a special case, or a "trick" photograph. This invites the question why people who bet on horseraces should consent to have their bets settled by trickery. Nor is the photofinish a special case; many kinds of "scientific" photographs display a similar divorce of pictorial content and "the facts of the moment." In infra-red and ultra-violet color photography, visible colors are arbitrarily assigned to invisible bands of the spectrum. In color Schlieren photography used to analyze motions in gases and liquids, colors are arbitrarily assigned to directions, and no surgeon expects to find anything resembling an X-ray when he opens up a body. In all these cases, the picture is valuable as an index of truth only to the extent that

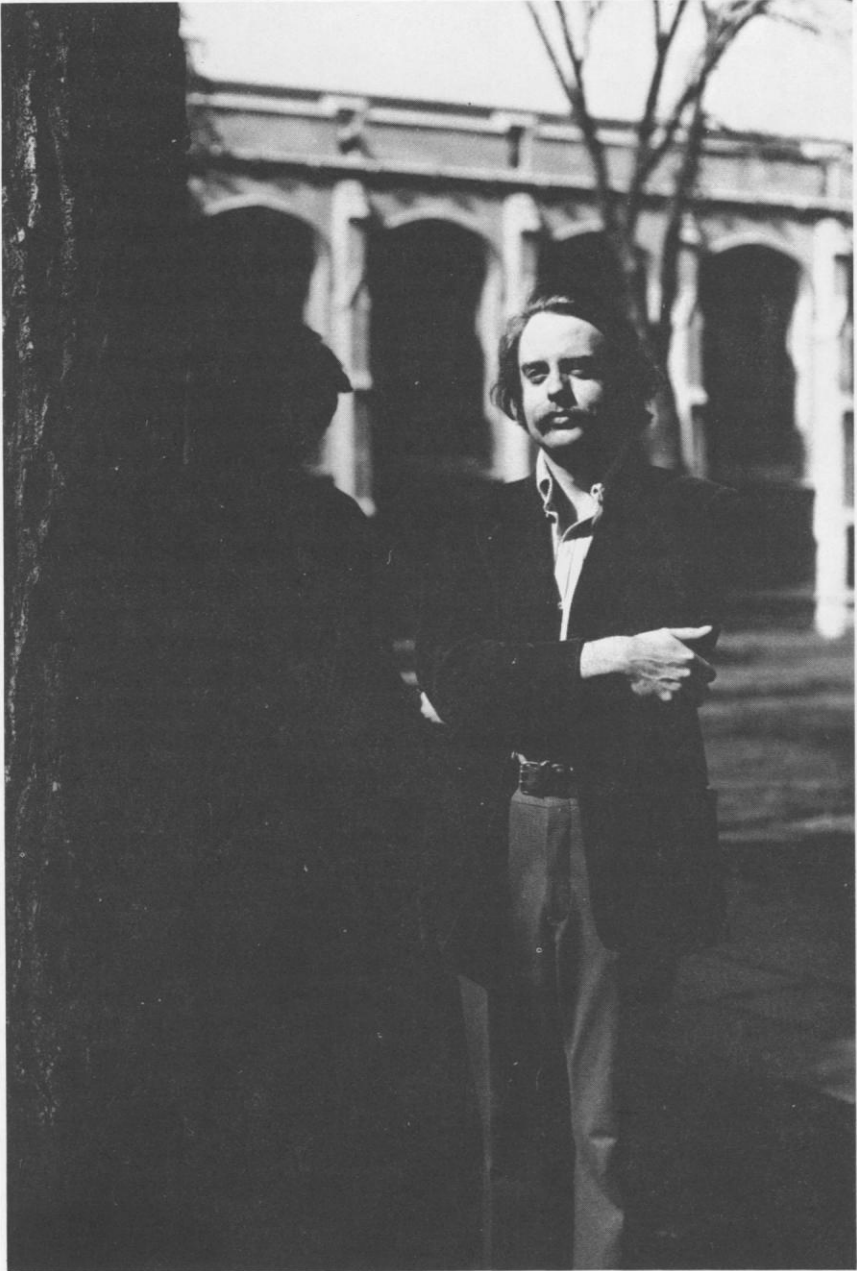


FIG. 6.—Correct exposure for sunlit face

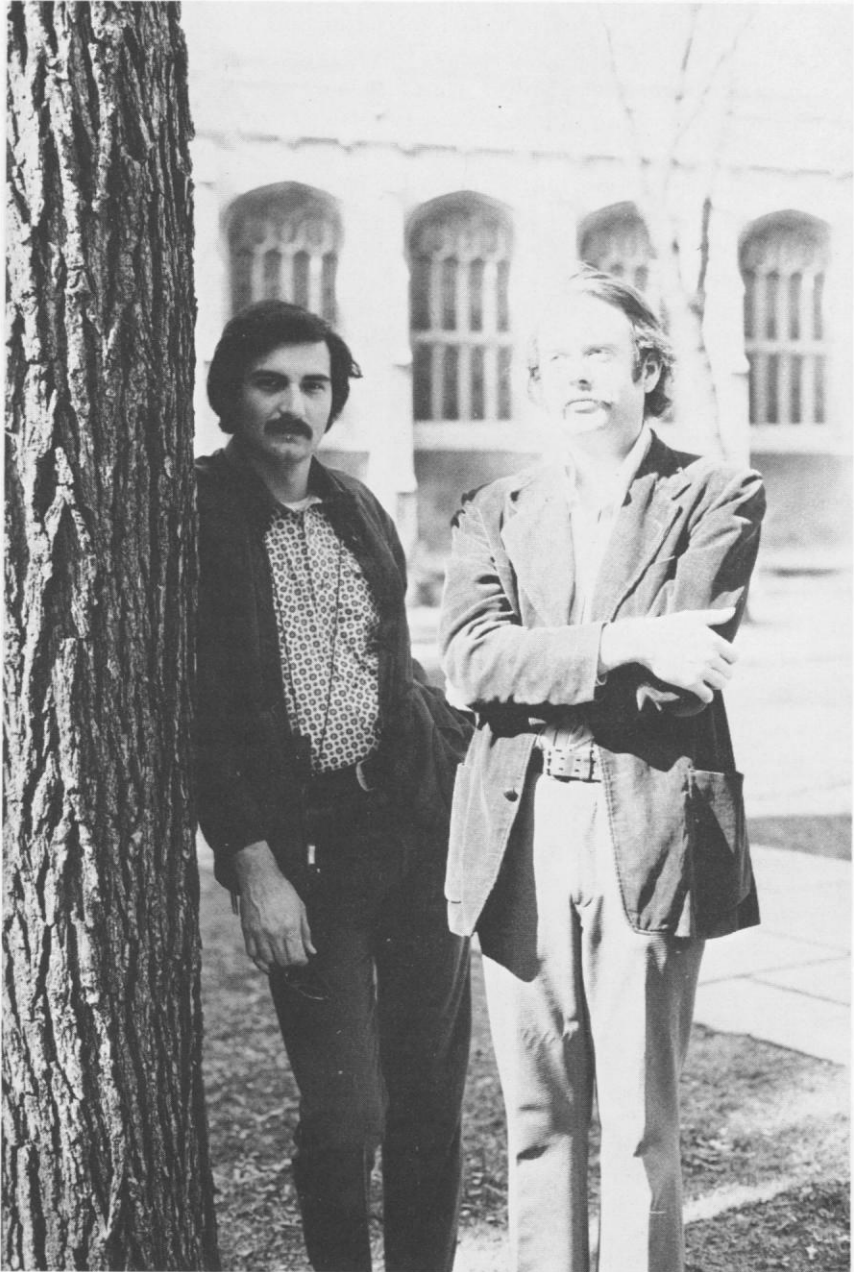


FIG. 7.—Correct exposure for shaded face

the process by which it was made is stated explicitly, and the pictures can be interpreted accurately only by people who have learned how to interpret them. To the uninstructed viewer, red and purple potato plants look equally bizarre; only the expert interpreter, who knows how color infra-red film works, who knows what filter was placed over the lens, and who knows something about potato plants can confidently equate red with health and purple with disease. Even when a scientist uses "conventional" kinds of photography, he is likely to rely on the inclusion of stopwatches or yardsticks or reference patches in the image, rather than on the photographic process pure and simple, to produce pictures which are a reliable guide to the truth.¹⁸ Needless to say, the explicitness that provides guarantees to the scientist is rarely demanded of most photographs we see, and if demanded couldn't be provided, and if provided wouldn't explain much anyway.¹⁹

Let's consider, for example, two photographs taken with a "normal" lens, given "normal" development, and so on (figs. 6, 7). They differ only in that one (fig. 6) was given the "normal" exposure for the figure in sunlight, the other the "normal" exposure for the figure in shade. As indexes of "what was there," they are equally informative; as "mechanical deposits of light," one is as good as the other. Indeed, as "mechanical deposits of light," overexposure and underexposure so extreme as to be utterly featureless would be just as acceptable as the exposures used here. The mechanical model, by explaining everything, ends up explaining nothing. In practice, the mechanical workings of the photographic process must constantly be regulated by a set of rules for making "acceptable" pictures, and simple mechanical procedures must be augmented by additional processes to produce a number of different degrees and kinds of acceptability. By following the rule of thumb "better underexposure than over,"²⁰ a photographer would produce figure 6 rather than figure 7, and by employing any one or a combination of techniques (most of them "nonmanipulative"), a photographer could greatly compress the "natural" brightness range of the scene into acceptable, or even pleasing, limits.

18. Similarly, professional photographers include the standard Kodak Colorguide in their pictures to aid printers in reproducing color. In the absence of such a referent, photofinishers printing amateur color negatives program their printing machines on the assumption that every picture will "average out" to about 18 percent gray. When the assumption is wrong and the results go awry, photofinishers refer to it as "subject failure."

19. Even in criminal proceedings, the police photographer is not questioned about optics or chemistry. He is asked instead whether his photographs give an accurate indication of what the scene looked like—a question that could be asked, and answered, of many "handmade" pictures as well. See also Eastman Kodak Company, *Basic Police Photography* (Rochester, N.Y., 1974).

20. This is a simple modern rule for color reversal film. A more complex modern rule for black and white would be to expose for highlights and develop for shadows. The opposites of these rules have prevailed in other areas.

III

If “automatism” and both the visual and mechanical models of photography explain so little of how photography works, why are they advanced? At least one reason seems to be that they are not intended as serious descriptions of the photographic process in the first place and are only put forward as “negative” definitions in order to establish what is peculiarly photographic about photography by way of contrast with what is peculiarly “artistic” about art. Thus what is truly significant about a photograph of a horse is not really that the horse himself printed his image, or that the photograph shows us the horse as we ourselves would (or wouldn’t) have seen him, or that it establishes something in the way of scientific truth about this horse. What is significant (it seems to be alleged) is that *this* horse wasn’t invented by some artist: this is a picture of a *real* horse. This sort of thing is usually more hinted at than stated explicitly, and it seems to encompass a number of different beliefs, some about photography and some about art, some mainly ontological and some mainly aesthetic.

At a simple, literal level, the ontological distinction seems rather unpromising. Certainly Holbein *might* have painted the portrait of some imaginary being and called the result “Erasmus”—but we are fairly sure that Erasmus was not a phantasm of Holbein’s imagination. Certainly “imaginary” scenes can be created by traditional art, but this does not mean that every painting, or even every good painting, is by definition totally divorced from “physical reality.” Nor is it a fact that every photograph is inextricably mired in “the facts of the moment.” At the literal level once again, one must first exclude by fiat all sorts of photographic practices in order to make the distinction begin to work. There must be no retouching, no staging, no distortion, no combining of negatives in a single print. “Photography” must be understood to exclude such (purely “photographic”) printing methods as gum-bichromate (which allowed the addition of brush strokes to the emulsion) and bromoil (a classic book on this method includes an illustration with the caption “excess sheep removed”).

Of course once a theorist has defined photography as being non-manipulative, nonimaginative, and noninventive (in a literal sense), and has defined “art” as being manipulative, inventive, and imaginative, the distinction between the two becomes relatively clear.

As far as principles of aesthetics go, John Szarkowski has gone further than many other writers by stating explicitly the theory of art that separates photography from “handmade” representations: “most of the literature of art history is based on the assumption that the subject exists independent of, and prior to, the picture. This notion suggests that the artist begins with his subject and then does something to it—deforms it somehow, according to some personal sense of style.”²¹ In

21. Szarkowski, p. 65.

the very next sentence, Szarkowski adds that this theory probably doesn't account for the work of any artist in any medium, which makes his assertion that "it is especially irrelevant in the case of photography" somewhat less than definitive. Now it is certainly true that many artists have drawn or painted Crucifixions, Last Suppers, and Horatios and Bridges, and that it is instructive to see how representations of these set subjects have varied from era to era, and among different artists of the same era. It is, however, equally instructive to compare the ways that William Henry Jackson and Ansel Adams photographed Old Faithful, or the ways Edward Steichen and Walker Evans photographed the Brooklyn Bridge. Of course these are not "preexistent" subjects in quite the way Szarkowski means. But neither were the subjects of Constable's *Wivenhoe Park* or Turner's *Burial at Sea*, or Seurat's *Sunday Afternoon on Grande Jatte Island*. Furthermore, when one does compare two "traditional" renditions of ostensibly the same subject, one is often forced to the same conclusion that Szarkowski takes to be unique to photography: that much of the creative task of the artist lies in defining just what the subject *is*. When Szarkowski says of a photograph by Harry Callahan that the subject "is not the figure, or the room, or the shape and graphic weight of the light window against the dark ground, but every element within the frame, and their precisely just relationship,"²² he is hardly revolutionizing the aesthetics of the visual arts.

Now it would be quite correct to point out, à la Gombrich, that there is nothing in photography that corresponds exactly with the schemata used by many artists of other eras as aids in making representations of individual objects. The photographer who knows how to make acceptable pictures of horses might be thrown for a loop if a rhinoceros, instead of Old Dobbin, were to come trotting out of the barn, but it would not be for lack of means of representing rhinos as opposed to horses. However, formulas and standardized procedures of representation are certainly not lacking in photography, especially in those kinds of photography often thought to be simple, straightforward "documents." The passport photograph and the police "mug shot" are each produced by formulas regulating choice of lens, framing, and lighting. The Kodak manual *Clinical Photography*²³ contains 118 pages describing a wide variety of methods of photographing the human body, each method appropriate for the characterization of a separate set of conditions or symptoms. Similar manuals exist to instruct commercial photographers in the methods appropriate for architecture, family groups, silverware, and glassware. In addition, there are the "built-in" formulas of the snapshot camera, designed for "typical" snapshot subjects and to compensate for the amateur's problems with focus, exposure, framing, and holding still. Some methods of photography and some pieces of photographic

22. Ibid.

23. Eastman Kodak Company, *Clinical Photography* (Rochester, N.Y., 1974).

equipment are more versatile than others, but there is no single method that will produce acceptable results every time—because the standard of what is “acceptable” varies with the subject to be represented and the audience and purpose for which it is to be represented.

Even in the realm of serious and inventive photography there is no clear-cut break with older traditions of representation. Genres such as portraiture and landscape have been appropriated, expanded, and redefined, and new genres and subgenres have been created. Furthermore, photographers have relied upon conventions and habits of pictorial interpretation (both by confirming conventional expectations and by deliberately frustrating them), have created new conventions of their own, and have borrowed other conventions from the nonvisual arts. Thus to formulate a set of critical principles for photography based on what is purely or uniquely or essentially photographic is as absurd and unprofitable as would be the adoption in its place of standards taken from a mummified canon of nineteenth-century painting.

“Traditional” analyses of photographs may not be theoretically impossible, but are they worthwhile and workable? We will attempt to show that they might be by performing a rather stodgy analysis of a photograph made by a living photographer with a 35-mm camera, first published in *Life* magazine. The picture (fig. 8) is by Dennis Stock and shows James Dean at the grave of Cal Dean. We will not try to show that this is a great or even a very good photograph, much less to establish that it is better than, or at least as good as, some comparable painting or drawing. But we will try to show that it is capable of being analyzed as a picture “made and controlled by man.” In addition, we will attempt to determine how the fact that James Dean really existed, and really stood next to Cal’s grave, is important to our understanding of the picture. Finally, we will attempt to show that this photograph, and other photographs, lend themselves to a wide *variety* of critical approaches.

Clearly our interest in this picture does not lie strictly in the objects that it portrays but in the relation between those objects which have been characterized by the photographer’s choice of lens and point of view. These relations are complex. The two people are carefully balanced in opposition to the tombstone. Dean’s younger brother is looking at the tombstone; Dean himself is glancing away. The surroundings are extremely simple, and help to concentrate our attention on the two figures and the grave. Dean himself seems to be a study in ambiguities: he is both consoling his younger brother and being comforted by him; he cannot “face up” to death, yet sees it all around him. We feel that Dean has ceased to view death as an incomprehensible tragedy which happens to other people and sees it instead as a constant threat to himself. Although the scene was recorded instantaneously, there doesn’t seem to be anything “fragmentary” about it: it seems quite typical of the contrasting attitudes of a boy and a sensitive young man toward death.



FIG. 8.—“James Dean at the grave of Cal Dean” by Dennis Stock. Courtesy of Art Institute of Chicago.

We could reconstruct the “actual” scene that took place—the visit to the grave, the five or ten minutes that Dean and his brother spent there—and we can easily see that thousands of photographs *might* have been taken which would not affect us as this one does. For example, instead of this photograph, Stock might have made an exposure at the same moment from a similar point of view which showed much more of the cemetery. This alternate view would present substantially the same “facts” but would considerably weaken the contrasts between Dean and his younger brother. Dean’s action at Cal Dean’s grave would no longer seem to be a more mature yet also more self-centered reaction than that of his younger brother: he might appear to be more philosophical in relating his great-grandfather’s death to the general lot of humanity, or he might simply appear to be a person who gets edgy in graveyards.

There is no doubt that Stock made a number of choices in the course of producing this photograph, but it is difficult to imagine that he calmly evaluated every possible photograph that *might* have been taken and chose this one as the best. Nor is it likely that he hopped about the cemetery, viewfinder glued to his eye, until he “found” this picture and pressed the shutter release, nor even that he was standing around in the cemetery when suddenly James Dean started looking odd and Stock, with lightning reflexes, vaulted onto the tombstone and “captured” the scene. It seems much more likely to suppose that Stock began with a notion that he would like to photograph Dean in a way which expressed

what Stock believed to be Dean's attitude toward death and that he proceeded to set up a situation and choose a point of view and a lens which would create the photograph.

More to the point, we should notice that the kind of visual experience we have when looking at Stock's photograph is never (or very rarely) available to us as we walk about. The reason it is unavailable is not that we rarely happen upon sensitive young men standing in family plots. (This is the complaint of many would-be photographers.) Rather, the sort of experience we have in looking at the photograph is available only through representations, not directly from nature. In other words, if we were to state that Stock's work in making this picture consisted of selecting—of including and excluding—that selection does not operate directly on the scene in front of him. Instead, the principles of inclusion and exclusion are to be found in the final print that Stock has already decided upon as his goal.

Of course Stock did not create his notion of the final print out of thin air, or intuit it from some other-worldly realm. He knew James Dean and knew what sort of objects one was likely to find in cemeteries. He knew what kind of picture he was after: one that would show something of Dean's character from his reaction to his surroundings. He knew how his audience might react to various arrangements of figures with one another, with other objects, and within the space of the overall picture. He also knew what his camera, lens, and film would do under all sorts of circumstances. To this must be added Stock's own sensibility, his ideas of what sorts of pictures were worth making. Considerations of this sort are available to every photographer, although how they are employed in creating photographs seems to vary greatly. Some photographers "previsualize" every detail of the negative and print before tripping the shutter. Others may have a number of nebulous possibilities in mind which take on more specific form as they shoot a number of exposures, and their expectations may take on final form only when they "discover" their picture on a contact sheet.

Perhaps it is this sort of procedure that prompts critics to talk of photography as an "encounter with physical reality" or as a "compromise" or "coproduction." But certainly there is nothing new here: artists have long sought out favorite bits of countryside, hired favorite models, returned time and again to congenial themes or restricted themselves to one or two genres. The limitations on visual artists, including photographers, are usually self-imposed or imposed by a lack of invention or a lack of representational schemes and programs for translating ideas into pictures. So if we find some fault with Stock's picture, we needn't let him off the hook by saying that Nature hasn't done *her* share, or trying to see things as mechanical deposits of light, or reminding ourselves that, after all, it's only a photograph. We are fully justified in saying that the work itself is flawed, or poorly made, or trivial. If we do

find such faults, we might try to show how Stock could have done better, or, if this was the best he could do, we might suggest that he file this picture away with his other unsuccessful efforts.

Does this picture have any special status by virtue of the fact that it was made by a camera rather than by hand? One is tempted to say that it does, that it establishes certain facts about James Dean—that, at the very least, he once stood next to the grave of Cal Dean. But even this minimal statement is not incorrigible. We might be challenged to prove that it was indeed James Dean, not a look-alike, or that this is a real grave, not a stage set, or that Cal and James Dean were related. If we were to establish that everyone and everything is what it seems from external evidence, what *new* facts does the photograph establish? It would seem then to establish the same things about James Dean that would be established about the subject of this picture even if he *weren't* James Dean, or in fact had never existed at all. Of course our knowledge about the real James Dean—that he died young or that he played a character named Cal in *East of Eden*—may add a good deal of poignancy to this photograph. This sort of thing happens all the time, regardless of medium and even regardless of “the facts.” Our recognition that it is Christ on the cross, or Marat in the bathtub adds to, or may even transform, our appreciation of pictures and of their subjects—even when we suspect or know that the death scenes in question “didn’t really look like that.”

The method of analysis we have sketched out here is by no means the only one that might be applied to this picture. We might instead have tried to assign Stock’s picture to a genre—say a certain sort of portraiture which we might call “environmental portraiture,” that differs both from simple portraiture and from simple depiction of people engaged in daily activities. Or, having noted that some of the effect produced by Stock’s picture is due to an interplay between human figures and their environment, we might ask how another photographer, Henri Cartier-Bresson, handles these two elements in ostensibly similar pictures. Here we might conclude that whereas in Cartier-Bresson’s work the relation of people to their environment is usually incongruous or in the broad sense humorous, in Stock’s photograph the environment serves as an appropriate setting and occasion for human action. In this respect, Stock’s photograph seems to be akin to certain kinds of motion pictures in which similar arrangements of people within an environment are found. We might ask why this picture was published in a mass-circulation periodical, how that possible use might have influenced Stock in creating this picture, and what the picture might reveal about the readership of *Life* magazine.

In sum, we may consider the photograph either as something in itself or in its relationship to other things—to its subject matter, or to the formal qualities it shares with other pictures, or to the psychological make-up of its creator, or to the conventional expectations of its audi-

ence. We may ask specifically photographic questions of it (pertaining, for example, to the use of wide-angle lenses) or we may ask questions that are extremely broad (pertaining, for example, to the representation of "serious" action by agents who are neither better nor worse than average). The ability to investigate this photograph and others in these various ways does not, in and of itself, establish that this is a great or significant photograph or that photography is "as good as" easel painting. Instead, the variety of critical approaches (of which we may think some to be valuable and others to be wrong-headed) provides us with a variety of ways to assess the merit or lack of merit of this and other photographs. Just as important, this variety provides us with a number of ways of defining just what this photograph is, both in itself, and as the cause of a variety of effects and as the effect of a variety of causes.

Even if we are interested in photographs as "documents" rather than as "art," the naive belief that photography lies outside the sphere of other representations can lead to a basic misunderstanding of the "documentary" questions we ought to ask. The documentary value of a photograph is not determined solely by Arnheim's questions of "authenticity," "correctness," and "truth." We can also ask what it means, who made it, for whom was it made, and why it was made in the way it was made. These questions are asked of other "documents," ranging from Minoan warehouse receipts to great works of art. They should be asked of "documentary" photographs and photographs-considered-as-documents as well.

The poverty of photographic criticism is well known. It stands out against the richness of photographic production and invention, the widespread use and enjoyment of photographs, and even the popularity of photography as a hobby. To end this poverty we do not need more philosophizing about photographs and reality, or yet another (this time *definitive*) definition of "photographic seeing," or yet another distillation of photography's essence or nature. The tools for making sense of photographs lie at hand, and we can invent more if and when we really need them.