

Notes Toward An Integrated History of Picturemaking

By Carl Chiarenza

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Paul Valery once said, “. . . it is more useful to speak of what one has experienced than to pretend to a knowledge that is entirely impersonal, an observation with no observer. In fact, there is no theory that is not a fragment, carefully prepared, of some autobiography.” I believe this to be as true for what I will say here as I believe it to be true for any history written, spoken, or pictured.

The title of the series of lectures of which this is one¹ makes the assumption that there will be new histories of photography. It suggests seeing into the future—that is, seeing how the future will change the past. Of course there will be new histories. The past is “there” to be reinterpreted. The new histories will be critical of past histories, and will reflect the concerns of future individuals. They will be fragments of autobiographies.

We are presumably interested in photography and in history and, hopefully, in how they are related. It seems that we are obsessed with knowing (and perhaps that means controlling) everything about photography’s past.

It wasn’t so long ago that many of us were shouting that no one was taking photography seriously—neither historians nor critics, let alone philosophers and sociologists. Now my mind is littered with Barthes, Bazins, Benjamins, Bergers, Burgins, Burstins, et al.—the list is endless. The theories are confusing and conflicting; some are irritating. A reason for this is to be found in history.

Photography (or its history) is, apparently, many more things than P. H. Emerson, Alfred Stieglitz, Beaumont Newhall, Minor White, or John Szarkowski ever told us it was. (Remember the neat categories that Minor White and Walter Chappell placed in the slices of the photographic pie drawn on the pages of *Aperture* some 20 years ago?²)

I will not today call for a new, or another, history of photography, but for a *first* meaningfully integrated history of picturemaking: one that asks tough questions about relations between pictures and worlds; one that examines why and how certain assumptions made in the past formed finite views of pictures and worlds and their interrelationships; one that examines the effects of those finite views on what followed their being made and on what preceded us; one that sees the overwhelming consequences for and of photography in light of the above. I would like to know, for example, what effects on our understanding of photography, painting, art, world, reality, ourselves, have been caused by the question posed in 1839; “Yes, but is it art?”

It is of the utmost importance that I am not misunderstood here. I do not care to discuss whether photography is art. It is a wrong question. I am concerned only with the effects caused by posing and reiterating that question for 140 years.

We have histories of photography which make little if any meaningful reference to other forms of picturemaking, and we have histories of art which all but ignore photography. There are very few exceptions. Those which pair paintings and photographs or which look for imitative influences are, I think, of limited usefulness toward answering important questions. Pictures have always been models for other pictures. Photography, like oil painting and lithography—like perspective even—is part of an ongoing conglomeration which is continually developing out of the distillates of past models. This is true for history as well.

Now, keeping in mind Valery's statement with which I opened my remarks, let me tell you an anecdote about a historian I once knew. He opened a history symposium at Harvard by saying, "History is a bag of tricks." The historian was black, a fact that amplified what he had said, a fact which pointed to the tragic truth of what appeared to be a joke. History is *made up* by human beings. Robert Taft and Beaumont Newhall wrote histories of photography at about the same time, both in the United States. Why are they different?

Histories, like photographs, are controlled by the conventions, beliefs, and accidents of a time, a place; but that control is always modified by the individual maker. We all know this, but our behavior suggests that we do not believe it. Believing it might impede our functioning. And continued functioning is a first requirement. Let me give you a couple of concrete examples of this problem:

In the October, 1978, issue of the *Newsletter* of the Friends of Photography, David Featherstone reviewed the book, *The Face of China as Seen by Photographers and Travelers, 1860-1912*. (Millerton, N.Y.: Aperture, 1978). In that review he said:

One point touched upon only briefly [in the book] but well worth mentioning here, is that these photographers, finding themselves in an unfamiliar environment, saw, and responded photographically, only to what they thought they understood. The resulting photographs are not the objective documents that those who remained in Europe thought they were getting. Some of the distant landscape images, in a structural sense, might have been found in the English countryside, while the pictures of individuals and families look suspiciously similar to portraits made in Europe during the period. In other words, even though the specific content of the photographs was Chinese, the *forms* of the images remained European. This presents an obvious problem to those using historical photographs as primary resource material, and any analysis of late 19th century China based on these photographs must take this filtering into account. Photographs, it turns out, are little better than drawings or narratives as documentary tools.

Ernst Gombrich, in *Art and Illusion* wrote of a similar situation: a Chinese artist, Chiang Yee, he said, pictured English scenery on a trip to England, "through Chinese eyes" and the "rigid vocabulary of the Chinese tradition."³

Why are the pictures in the first book generally not labeled art, and why are those in the second book usually labeled art? The answer has to do with how the media were defined before, during, and after 1839. It has to do with the reasons for asking the question, "Yes, but is it art?"

As the philosopher Nelson Goodman would say, histories and pictures are just some of the ways of worldmaking.⁴ This is true for photographs as well as for paintings.

Why *do* we do history? Classic answers run something like: To learn about ways and means, mistakes, etc., so that we will be better able to proceed into the future by changing ways and means, by avoiding past mistakes in order to make a better future for ourselves, our children—or perhaps more accurately in order to understand ourselves better. In truth, I think, we begin by looking for answers to the big questions which we rarely articulate—the questions that ask for an explanation of life—of the many unknowns that seem beyond our grasp. Somehow history involves faith—faith in progress, growth, development—maybe evolution—certainly faith in the possibility that there are answers. I think picturemaking serves a similar purpose. Both historians and picturemakers, however, tend to lose sight of this in the course of living, working, and especially in the course of coping with the increasingly microscopic details which the field of history has uncovered and continues to uncover. And, along the way, historians often become promoters of an ideology, a point of view which becomes a convention through repetition and acceptance. What we end up with in doing history and in making pictures is a way of making propositions and comparisons, which is, in

part, how the question, “Yes, but is it art?” came about. History and picturemaking are ways of relation-making which allow us to posit ideas about the possibility of a world. To repeat Nelson Goodman, they are ways of worldmaking. Nothing can be considered more important.

Now, I freely admit that I do not know how or where or why life began, or how or why or where the first picture was made. I’m not convinced that I know where or why the first history was made. What I do know (or believe) is that pictures come from pictures and that history comes from history. Neither can “move” without reference (direct, indirect, conscious, unconscious) to what came before. For what came before provided a convention which had and has to be dealt with. I also believe that whatever is characterized by some term for a long enough period of time takes on in our minds that characteristics we usually associate with that term.

How the Renaissance answered the question, “what is art?” has certainly played a major role in defining the meaning and effects of pictures made before and since 1450. If painting with oil, for example, is characterized as art from its beginning and for hundreds of years thereafter, then it will be very difficult to conceive of oil painting differently. That is one reason why the characterization suggested by the question, “Yes, but is it art?” is so important. That question and the characterization suggested by its obvious answer has created a segregation which, I think, has led to an increasing misconception about the meaning and real effects of all kinds of pictures—those made both before and after 1839.

As a youth I had very little interest in history. My world was composed of music, picturemaking, and some writing. In college my interest in history was still weak, though I did develop a curiosity about a few photographers and painters who had lived and worked in the past, and some who were still working. Three courses contributed to that new interest. One was an art and music appreciation course which, I recollect, never mentioned photography. The other two were histories of photography: one with a scientific and technical basis, taught by C. B. Neblette; the other with a picturemaker emphasis, though it did not avoid the technical evolution, and that was, as far as I know, Beaumont Newhall’s first formal college course. Neither history of photography paid much attention to paintings or other forms of picturemaking. Then I went off to graduate school in journalism (why is too long a story to go into here—but it involved economics in a variety of ways). I read about, thought about, and wrote about communication, both verbal and visual—though my interest was primarily visual (I continued to make pictures). I began to wonder even more about the separation of categories: art and science, art and photography, etc. I began reading J. J. Gibson⁵ and other psychologists of visual perception, and that seemed still another separate category. But somehow all these people/fields were supposedly concerned with two things: pictures, and the relationship between them and the visual world of things and ideas—either in terms of representation/communication or in terms of how we see the world directly—or how we act as a result of seeing either the world or pictures or both. Many seemed to feel that pictures and worlds were interchangeable in ways never acceptably defined.

I spent a lot of time thinking about all of this, and in the process began to read about art in history—not art history per se, but books by such people as Stephen Pepper, Rudolph Arnheim, William M. Ivins, Jr., Ernst Gombrich—people who might be called theoreticians rather than historians.⁶ Well, while I was reading, thinking, and making photographs, I was drafted into the army, where I spent two years doing very little photography, some writing, and some reading—now dipping into general art history. But mostly I did a lot of other things that the army was more interested in.

I was still wondering about the separation of categories, and more and more about photography’s inferiority complex—about photography’s supposed mechanicalness and its unworthiness as art. (This, at the time when my photographs were hanging in Steichen’s “Sense of Abstraction” exhibition at the Museum of Modern Art.) So, upon leaving the army I went to another graduate

school to investigate art history. One of the things I discovered was that art history investigated all kinds of pictures made before 1839, but discriminated against certain kinds of pictures made after 1839. That bothered me more and more. I've been a member of an art history department ever since, and I'm still trying to find ways to integrate what have been considered separate kinds of pictures or picturemaking, because I firmly believe that they are all part of the same basic human desire to represent visually—a drive or need that can be traced historically to the people who lived in or around the caves.

Now, if I haven't made the point strongly enough, let me remind you as well as myself that the point of all this autobiography is to underline the personal nature of everything we do. I have been trying to tell you about my motivation to do picture history and, whether I am willing to admit it or not, I come to it with a set of blinders which I may not be aware of—what Gombrich, borrowing from psychology, calls “mental set” in referring to what an artist is restricted by when he/she makes a picture. Some may say that I'm trying to raise photography to a higher plane in some hierarchy or other—for fame or profit, etc.; that could be my bias, my mental set. Someone else will have to judge. The important fact for me, is that we have both “distorted” histories of photography and “distorted” histories of art (without, of course, forgetting that all histories can be seen as distorted).

I think a similar feeling of discomfort with accepted histories of art motivated the writing of two important books in the 1950s: William M. Ivins, Jr., *Prints and Visual Communication*, and E. H. Gombrich, *Art and Illusion*. Unfortunately neither author understood photography (their mental sets were too thoroughly infected by the traditional/conventional art-historical discrimination). If they had talked to us photographers, or if they had had available to them the excellent essay, “Photography, Vision, and Representation,” by Joel Snyder and Neil Walsh Allen (published in *Critical Inquiry*, Autumn 1975), those two books might have been even more monumental than they are. But history doesn't always proceed in an orderly fashion. Indeed, my thinking as well as Snyder's and Allen's was in part motivated by Ivins and Gombrich!

In any case both Ivins and Gombrich, it seems to me, were trying to trace the relationship that might obtain between pictures and worlds; that is, how pictures have participated in the making of what people in history have taken to be their environments, and their ideas about or their understanding of those environments. In a sense what these writers were doing as sidestepping in different degrees, the more rarefied and thus limited and typical approaches to art history which involved hierarchies, connoisseurship, the notion of genius, the narrow view of formalistic/stylistic development, and the limited iconological approach to subject matter. Importantly, they both implied the difficulties of real understanding imposed by the traditional separation of form and content.

Neither Ivins nor Gombrich, however, understood to what extent photography was controlled by the same conventions—the same limitations—that affected older methods of picturemaking. Both fell into their own traps. (And, by the way, I wonder at this point which of my traps I might be falling into.) Of the two, Ivins was the more courageous rebel. He understood that “what we think about and act upon is the symbolic report and not the concrete event itself,”⁷ and that this cognitive aspect of art (pictures) is at least as important as any other. On the other hand, he was as convinced as anyone since 1839 that, as he put it, photography had no “distorting syntax” and that therefore it could provide “accurate” and “exactly repeatable visual statements.” This is one of the most difficult beliefs to break, and returns me to the question, “Yes, but is it art?” and therefore to the basic problem of photography's place in the history of picturemaking.

Since we really do not have a history of picturemaking, since all we really have are histories of art, we have to talk about photography's place (or non-place) in the histories of art.

Now let us ask why photography has not been included in the major art histories of the nineteenth and twentieth centuries. Can we assume that the authors did not consider photography art? Yes, we can assume that. Why didn't they? Because it did not fit into their definition of art. Why didn't it fit into their definition? Did they define art? And if they did, was their definition different from ours? We're getting into muddy waters, and I'd like to avoid them if possible. I think we can avoid them, but we can't ignore them.

To say, as most of us would like to say, that asking "what is art?" or "is photography art?" is dumb—or that they are wrong questions—is probably true, but we must not let that cause us to ignore the muddy waters. I submit to you that we must not ignore these questions. We do not need to try to answer them, but we must deal with the importance of the fact that the latter question (and the former is implied by the latter) has been asked consistently since 1839 and that it's being asked for so long and so consistently implies that those who have asked it have already known their answer. And we all know that answer.

We need to know why the question was asked in 1839, why it continued to be asked. For the answers to those two questions will go a long way toward explaining why there are separate histories of art and photography, and perhaps even toward explaining why there are no histories of pictures. (I must point out, before we go on, that the only art we're concerned with here is picturemaking, not sculpture, architecture, decorative arts, etc.—I hope the reasoning is obvious.)

That dumb (or wrong) question and its so-frequently-offered answer have become so imbedded in thought that they have themselves become conventional or traditional—that is, question and answer have come to be asked and given without thought. The effect of that on the history and meaning of all kinds of pictures, I think, has been of the greatest order in terms of what we might call, for the moment, distortion. At the very least it has removed photography from consideration by a number of important critics, historians, and theorists, and has therefore not only caused ignorance of photography but misinformation about both photography and the other forms of picturemaking. Generations of art historians and critics have been affected. But so too have photographers and *their* critics, historians, and theorists. Let me remind you that with some few notable exceptions, most photographers and their chroniclers know very little about the other picturemaking media and their histories. Photographers and photo-historians, in this regard, have been as narrow-minded as traditional art historians. I daresay painters have always known more about photography than vice-versa—and it has been to their advantage. Photography did not come without a history and a tradition in 1839. Nothing that I know of has come that way since Genesis.

Without giving you chapter and verse of the ill-effects imposed on literature and art by that "original" question and answer, let me give you just a couple of relatively recent sample examples: Stieglitz, you will recall, in response to the lingering effects of the question/answer, decided (as others did before him) that photography was a different kind of art (the title, by the way, of a recent essay by John Szarkowski,⁸ which had the same effect), a different kind of art with its own special characteristics (variously defined throughout his life), thus in effect solidifying segregation. Minor White did the same—even to a greater segregation in the pages of *Aperture*. In the late '50s I contributed to that, and shortly after found myself editing *Contemporary Photographer* in an attempt to broaden the definition of what we considered *important* photography. We were still segregating it from other forms of picturemaking.

All of these and more were attempts to create an elitist, segregationist camp in the manner of what we found ourselves excluded from—the fine art club of the other magazines, journals, books, etc. Perhaps Newhall's history, too, is that kind of negative response. (If I can't get into your club, I'll form my own and keep you out.) And all of us played right into the hands of the effects of the question/answer. We didn't agree that we were less good, less important, inferior, not artists—but

we did. There is no end of analogous examples of how things long and well-defined, however wrongly, resulted in all parties believing an erroneous definition for centuries. I need mention only women, the flat earth, the revolving sun.

In 1964 Van Deren Coke, a photographer and photography historian, created an exhibition and catalogue entitled *The Painter and the Photograph*.⁹ That title reflected the contents of both the exhibition and the catalogue: the paintings and painters were spotlighted, the photographs and photographers were, so to speak, kept in the back room (even though much of the innovative work was that of the photographers). In 1968, an art historian, Aaron Scharf, published an important history book with the title *Art and Photography* (London: Penguin Press). I wrote an extensive review¹⁰ of it in which I argued both for its importance, in terms of its massive and important research, and against its bias. I tried to show how the mind set of an author (he was a student of Gombrich) who would select such a title had to have had a very restrictive effect on what he would be able to say about his subject: the relationship between painting and photography. Indeed, his training, and therefore what he saw when he looked, what he heard when he read, had to have been conditioned by the effects of the question/answer.

The notes in the book, even more than the text, testify to the tenacity of the question/answer in the literature of the nineteenth and twentieth centuries. We can follow step by step how photography became defined, categorized, removed from the mainstream of picturemaking (or if you prefer, you may substitute the word “painting” for “photography” in the last sentence.) It is revealing both in terms of Scharf and in terms of the history of photography that as Scharf approached the last chapter of his book photography seemed to emerge slowly as art rather than as the something other than it was at the beginning of the book.

I want to say at some point, and perhaps this is as good a place as any, that I recognize that there are differences between painting, photography, and other picturemaking media. I do not wish to consider them here, for they are more than well-known—indeed, overly emphasized, though often incorrectly. I want to make a case for the consideration of where they overlap, for a consideration of why their differences are exaggerated and misunderstood, for a consideration of how one evolves out of the other. These are considerations which have not been emphasized, considerations which may lead to a more useful history.

Any viable history of photography has to be a part of a history of picturemaking, and any viable history of picturemaking must include photography. Any other may not be false, but it will be misleading in the extreme. Thus both Newhall and Arnason¹¹ (the most widely-used text on modern art, and less than two years old in its most recent edition) are misleading, and misleading, I think, for reasons that go back to the question/answer (which by not may be beginning to sound to you like the equivalent of original sin).

Some writers saw the problem. Walter Benjamin did. He noted it and its importance, but did not follow it up for two reasons: 1) He could himself not get completely past the transparency fallacy—seeing the photograph as a window on the world—a problem directly and immediately following from the assumption in 1839 of the technological reality and therefore non-artness of photographs (the question and its answer); and 2) he had other concerns, more pressing at the time, that he wished to pursue.

In his important essay, “The Work of Art in the Age of Mechanical Reproduction,” Benjamin wrote in 1937, “The nineteenth century dispute as to the artistic value of painting versus photography today seems devious and confused. This does not diminish its importance, however; if anything it underlines it. The dispute was in fact the symptom of a historical transformation the universal impact of which was not realized by either of the rivals.”¹² And he goes on to say, “The primary

question—whether the very invention of photography had not transformed the entire nature of art—was not raised.”¹³

I must interrupt this here to again remind you, lest there be any misunderstanding, you living in the midst of a 10-year-old wholesale acceptance of photography as art by museums, collectors, auction houses, etc., that I am not here calling for an acceptance of photography as art; I am calling for an understanding of why it was not accepted in the past, and more importantly I am calling for a new history which seriously engages those reasons and their effects on all picturemaking. I am calling for an understanding of the effect of the question/answer on all aspects of life in the last 140 years.

Benjamin, however, missed the major point of his own revelation because he too, as stated above, suffered from the transparency fallacy which had been in force for a hundred years before he began his essay. He sometimes confused film and photography, but more importantly he failed to take into serious account the fact that photography was developed in the image of pictorial conventions which had been evolving since at least the Renaissance—indeed, photography may be seen as the fulfillment (some 400 years later) of Leonardo’s dream of a “scientific art of representation.” That Benjamin missed this is clear from the following passage, which, while it deals with film, also clearly applied to photography in Benjamin’s mind. He wrote,

The film has enriched our field of perception with methods which can be illustrated by those of Freudian theory. Fifty years ago, a slip of the tongue passed more or less unnoticed. Only exceptionally may such a slip have revealed dimensions of depth in a conversation which had seemed to be taking its course on the surface. Since the [book] *Psychopathology of Everyday Life* things have changed. This book isolated and made analyzable things which had heretofore floated along unnoticed in the broad stream of perception. For the entire spectrum of optical . . . perception the film has brought about a similar deepening of apperception. . . . As compared with painting, filmed behavior lends itself more readily to analysis because of its incomparably more precise statements of the situation. . . . This circumstance derives its chief importance from its tendency to promote the mutual penetration of art and science. Actually, of a screened behavior item . . . it is difficult to say which is more fascinating, its artistic value or its value for science. To demonstrate the identity of the artistic and scientific uses of photography which heretofore usually were separated will be one of the revolutionary functions of the film.

. . . the film, on the one hand, extends our comprehension of the necessities which rule our lives; on the other hand, it manages to assure us of an immense and unexpected field of action. . . . The enlargement of a snapshot does not simply render more precise what in any case was visible, though unclear: it reveals entirely new structural formations of the subject. . . . Evidently a different nature opens itself to the camera than opens to the naked eye—if only because an unconsciously penetrated space is substituted for a space consciously explored by man. . . . Here the camera intervenes with the resources of its lowerings and liftings, its interruptions and isolations, its extensions and accelerations, its enlargements and reductions. The camera introduces us to unconscious optics as does psychoanalysis to unconscious impulses.”¹⁴

Where Benjamin and the many critics and historians before him have fallen down, and where the question, “Is photography an art?” arises, is precisely when the notion of photography’s “unconscious optics” (transparency) is accepted as fact. That that is a paradox is important. A similar paradox is indicated by Gombrich in his exploration of psychology of pictorial representation, where he says, “. . . the perfection of illusion was also the hour of disillusionment.”¹⁵

What I am proposing here is that photography, while *appearing* to prove or perfect the reality or the illusion in a Renaissance single-point-perspectival rendering of space and volume—in a sense coming to the end of a long search—was at the same time both a spectacular wonder and an incredible disillusionment. The reasons for this, I think, are many and complex, and before I try to sort out a few of the possibilities I want to use Benjamin a bit further.

On the surface one may feel that there is nothing new or unusual about Benjamin's position as it is developed here. Basically he seems to be pointing to photography's appearance mechanical revelation of a visual truth beyond what is visible to the eye—Muybridge's motion studies, for example. Photography shows us more, says Benjamin, and shows it more precisely, and thus makes it possible for us to understand (control?) more of our life. Others have said this since 1839. This is the second of the two major convictions about photography: 1) that it pictures what we see; 2) that it pictures what is there, whether we see it or not, for in showing us what is there it shows us both what we miss from lack of attention and what we miss from the eye's inability to see it (which is probably what Benjamin means by "unconscious optics"). The Snyder-Allen essay is the best explanation I have read about why both convictions are false, as any serious picturemaker has always known.

Benjamin's problem is a common one: the tenacity of the idea of photography's truthfulness to material reality with or without the presence of a human operator. No matter how often we deny it, no matter how often we read the Snyder-Allen essay, we all share this problem to some degree. Even I find myself falling through the window when I look casually at snapshots, magazines, television, and Walker Evans; and I like to think I have known about the trap for over 20 years. I do assume, however, the people will one day overcome—though it may take the long development of a major new convention of visual representation. The perspectival view has been the accepted view for 500 years. It can hardly be surprising that it is not easy to deny.

The importance of this for our comprehension of both art and reality cannot be overstated. Art, whatever it is, is a part of picturemaking, and picturemaking has been and is one of the ways of exploring and defining "realities" of various kinds and in various guises. And maybe one of the things we want to know from a history of photography as part of the history of picturemaking is how people have used pictures to shape the past and the present. For that might help us to guard against how pictures will be used to shape our future. How we perceive past and present is directly related to how we perceive and respond to pictures.¹⁶

And if we perceive photographs as technologically accurate or truthful, and paintings as aesthetically imaginative or technologically inaccurate, our world perception is categorically affected and our actions will follow in due course—for better or for worse.

There is one sentence in the Benjamin statement quoted above which leaves an open end and that is: "To demonstrate the identity of the artistic and scientific uses of photography which heretofore usually were separated will be one of the revolutionary functions of the film." But film has not demonstrated this identity. Indeed, film's separation into fictional (artistic) vs. documentary has increased the confusion, and who either believes or can adequately define what the difference is between these two modes of filmmaking? How verite is cinema verite?

I'd like to play with the notion of "the identity of the artistic and scientific uses of photography" for a while.

Benjamin says they were "heretofore usually . . . separated," which is still true and which is at the heart of what I called the paradox at the birth of photography, and which is at the heart of most of the controversies surrounding photography ever since, including those proclaiming the greater scientific potential of the daguerreotype vs. the greater artistic potential of the calotype, and proceeding through to Robinson's arguments *for* combination printing vs. Emerson's arguments against, to the conflicts over the scientific vs. artistic truth, merit, and use of Muybridge's locomotion pictures, to the confrontations of Weston and Mortensen, Walker Evans and Stieglitz, and Szarkowski's *Mirrors and Windows*. And it is the core of the question/answer issue.

And the artistic and scientific separation or identity question is not unrelated to—indeed it is not unlike a similar controversy—over the relationship between art and knowledge. Do we learn from pictures? Do we learn one kind of thing from paintings and another kind of thing from photographs? Aren't all pictures related in terms of their cognitive function as well as in terms of their makeup based on conventions?

Photography was made to fit the needs and desires of individuals whose conceptions of what kinds of knowledge pictures provided, and what such pictures should look like, were based on experience with past or present pictures. Thus there can be no scientific accuracy in the sense of a pure record of reality. There can be no objective document. Thus photographs suffer the same consequences and enjoy the same possibilities as other kinds of pictures. There cannot even be degrees of “more accurate” for photographs vs. paintings. There can only be accepted norms for kinds of representation which can be learned and which can be more or less adhered to by photographers and painters alike.

Why *were* photographs immediately taken to be “real,” to be true representations of reality, when they appeared in the nineteenth century (and why do we still so see them in our unguarded moments)? Part of the answer to that question, I propose, is to be found in the fact that photographs seemed to fulfill their audience's expectations about truth in representation in terms inherited from Renaissance conventions of single-point perspective, chiaroscuro, and other such characteristics of the “window-on-the-world” type of picture. Conversely, the only thing most early photographers could think to do with the camera was to reproduce those conventions. At the same time the scientific and technical aspects of the invention were acclaimed for their assurance of an automatic relation to the material world. Now, I propose to you that just by suggesting this partial and tentative hypothesis, I am at once linking artistic and scientific as well as art and knowledge, and at the same time am setting photography on an equal basis with other types of picturemaking. I am also insisting on the conventionality of our expectations about what counts as realistic. But all of what I have proposed in this hypothesis applies only to the Western world, and that is a very important point, because the conventions were different in the East. These thoughts are inspired by Gombrich's *Art and Illusion*, and represent the radically relativist side of his argument, a side he never fully admits or accepts because, I think, he misunderstands photography as something other than what he is talking about.

Gombrich goes to great lengths to prove the force of conventions in restricting an artist's and viewer's perceptions, but he fails to see, as most of us do, where the force of conventions restricts his own perceptions. He wants to both break and hold conventions simultaneously, and thus must disown his own radically-relativist side when he sees it cutting the ground from beneath his feet.

If you accept my proposed hypothesis it follows that we must recognize that there can be no absolute distinction between the “straight” and “manipulated” image, or between mirror and window, etc. We must recognize that all conventions for representing space, time, and motion are in some sense equally valid. Conventions for other things and ideas (God, love, tension, Great Nature, etc.) must also. But conventions would not be conventions if they did not have staying power, if they did not have wide acceptance long enough to become habitual.

Some “proposed” conventions do, some do not.

Before photography, God, geometry, and geometric optics lent representational credence to pictures made with oil paint following the mathematical rules of linear perspective—representational credence for both spiritual and literal truth. Suzi Gablik wrote, “In Renaissance, geometry was truth and all nature was a vast geometrical system.”¹⁷

Since photography, however—and actually quite recently and paradoxically—linear perspective, which had been believed to be innate has been shown to be a convention which must be learned—as indeed it was not, in the Eastern world, until long after it was generally accepted in the Western world. Non-Western and pre-Renaissance Western people had different conventions, based on different concepts of reality—which is why non-Western people had and have difficulty with perspective pictures (and photographs) on the first exposure. The best book on the complexity of the development, meanings, and purposes of linear perspective and its distinction from human vision is S. Y. Edgerton, Jr., *The Renaissance Rediscovery of Linear Perspective* published in 1975 (New York: Basic Books). What Edgerton says in that book and several more recent essays,¹⁸ about perspective and the world from the fifteenth century forward, is applicable to photography and the world since the nineteenth century, as is what Ivins says about printmaking since the Renaissance. Both tell us that pictures before photography defined the visible world just as photographs (and other pictures) have been defining the world since 1839—that is, defining the world largely as we expect it to be defined, based on our beliefs.

Long before linear perspective, however, man's need to reproduce what he thought he saw, or knew, or believed, established itself as the first principle in picturemaking. It was, of course, the maker of pictures on the walls of caves who began this tradition and who formed the first conventions (at least, the first we know). I would like to think that there were cavemen who theorized about the art and science of those pictures. While that may seem far-fetched, I do like to think that there were cavemen who theorized about the reality of those pictures, and that that theorizing led to accepted beliefs about the world which were, in effect, created by the conventions developed in the process of picturemaking. Projecting into the future, I suspect a similar result following from the certain-to-becoming pervasiveness of holography. We seem to need a picture which we can accept as real. Whether the holographic picture will be acceptable as that picture is perhaps not as certain as I suspect at this moment.

I suggest that that need or desire itself long ago became transformed into what we might call the insoluble problem of picturemaking. Each attempted solution has posed a new problem. Both solutions and problems have had extraordinary effects, not only on art but on reality. Indeed, all of this activity, while not providing reproduction, has made it possible for us to see “realities” never before seen or known, but never in any sense by what could be called mechanical automatism. Picturemaking is proof that there are many worlds, many realities. Picturemaking has made them. Photography posed a greater problem than usual by being so widely accepted as what seemed a final solution, because it made it possible to do, with the aid of manufactured devices and chemistry, what had been done before by hand and handmade devices, and because so few thought to consider, as we are beginning to today, when we think of computers, that every aspect had been programmed to conform to conventions imagined and developed by men and women.

How many of us today question the reality of Muybridge's horses? Indeed, how many of us question the reality of the simultaneous presentation of three differently-scaled views of Englebert Humperdinck on the television screen? We know, however, that an Egyptian living 3000 years ago, or a person who has never learned to read pictures, would not only question the reality but would be totally confused by the photograph or the television screen. He would not be confused if a horse or Englebert crossed his path. As a pertinent aside let me put in your mind a simultaneous reference to Cubism and to Egyptian wall painting to remind you of how, as readers of pictorial conventions, on the one hand, sophisticated we are, and on the other hand how naive we are.

It is said that when a friend saw Picasso's newly-painted portrait of Gertrude Stein, he exclaimed to Picasso that the painting didn't look like Stein. Picasso, it is said, replied, “Don't worry, it will.” And indeed, for me it does—it is the only real Gertrude Stein I know. There are two photographs of

Marian Anderson that I have known intimately for years; one is by Karsh, the other by Avedon. Now, I *know* that neither is Marian Anderson, but I *believe* Avedon's is.

Since 1839, then, what has been taken to be visibly real has been largely what has been seen in photographs, whether those photographs have been characterized as art, science, or the cloudy area in between. But how did photography come to be seen as a method of picturemaking both the same as, and different from, the older methods?

There is little to be gained by tracing the narrow but well-documented history of the pre-history of photography's technology here. There is something to be gained, however, by reviewing a few of the highlights of that history from a slightly different perspective.

We know that there is an intimate relation between the desire to represent the world visually, the development of perspectival rendering, the camera obscura, mirrors and windows, and geometric optics. It is unclear which came first or which exerted the greater influence on the other. It is also unclear how much of the impetus was scientific, how much was artistic, and where to draw a line, if any, between them.

We know that the image area of the camera obscura was designed via a mental set developed from Renaissance notions of pictures as windows-on-the-world. One might say that another type could not have been imagined.

We know that lenses were designed on principles of geometric optics and that those designed for use on cameras obscura were specifically made to project one-point perspective pictures onto a framed window; and that conforming to a rectangular or square window eliminated part of the lens-formed image, which was circular.

We know that camera and lens manufacturing, with few exceptions, has followed this rigid set of conventions ever since. That there may be other possibilities seems not to have been with in the mental set of equipment designers, inventors, manufacturers—or most photographers—or most other picturemakers (very few painters—even of our generation—have broken with the basically rectangular format). That is an incredible testimony to the tenacity of the Renaissance convention. It is what we immediately visualize upon hearing the word “picture.”

What we think of (or visualize) when we hear the word “frame” also testifies to the power of the conventions of Renaissance picturemaking. Look the word up in any dictionary and see how broadly it is used. To encourage you in this enterprise I'd like to list a few phrases: to frame a view; to frame a picture; to frame a proposition; to frame a concept; frame of reference; to include, enclose; to exclude; to impose; to fragment; to control; to limit; to arrange; to give expression to; to contrive; to draw up; to formulate; to shape; to devise falsely; the constructional system that gives shape or strength; a set or system (of facts or ideas) serving to orient or give particular meaning; frame up, etc.

About the motivations of the three best-known inventors of photography we know, among other things:

1. Niepce wanted to reproduce other pictures.
2. Daguerre wanted an easy method of preparing illusionistic settings for his diorama pictures.
3. Talbot wanted an automatic method of rendering pictures of picturesque scenes (in other words, an automatic method of making permanent the pictures he projected out on the world).

4. Niepce's main occupation was as an inventor—we might say a technologist.
5. Talbot's main occupation was as a scientist (mathematics, physics, linguistics).
6. Daguerre's main occupation was as an artist (picturemaker).

Thus art (picturemaking), science, and technology as means of obtaining and communicating knowledge are not only in the ancestry but in the parentage of photography. Most important, however, is that each of the major motivations above has a history traceable within the traditions of picturemaking.

While as we have noted, the daguerreotype and calotype pictures numbered many differences among their image characteristics, the major generalizations then and now about all kinds of photography revolve around the long-accepted traditions of the Renaissance perspectival oil painting. Only one characteristic of photography was and is consistently singled out as different and significant and that is, in one variation or another, photography's supposed mechanical nature (apparently different from the grids, perspective boxes, and other geometrically derived devices used from the sixteenth century on). Not even the lack of color received the kind of attention that the "automatic rendition of space, volume, mass, chiaroscuro, and detail" sparked in all accounts. It seemed to most people, as it seemed to Delaroche, that the Renaissance quest for the perfect two-dimensional illusion of reality had been fulfilled.

Here is a paradox—Renaissance art and science joined in an effort to study reality visually. Leonardo is acclaimed as a Renaissance man precisely because he brought every known field to bear on his exploration of the world as it was then known. By the time the central visual method of that study was "perfected" by photography, most (but not all) artists and scientists has separated company and found themselves in quite segregated academies.

You have all read, in available histories, of the complex effects photography's emergence had on painters and printmakers—how some (generally seen as the less-than-great) were threatened, how some lost their patrons, clients—their business; how some became photographers or employees of photographers—the latter generally as hand colorists, etc.

You have, perhaps also read the multitude of treatises about Realism in the art of the nineteenth century—particularly those centering about Courbet, Manet, and the Impressionists. Perhaps you will recall Constable's statement, made during a lecture in 1836, three years before photography was made public, that "Painting is a science and should be pursued as an inquiry into the laws of nature. Why, then, may not landscape painting be considered as a branch of natural philosophy, of which pictures are but the experiments?"¹⁹ It wasn't until 50 years after photography (in 1890) that Maurice Denis wrote that "a picture—before being a war horse, a nude woman, or some sort of anecdote—is essentially a surface covered with colors arranged in a certain order."²⁰

Now, obviously, I do not have the space to review the various concepts of realism here—even less possible is it for me to get into the philosophical notions of the word "reality." It is enough for now that you have in mind the importance of and the vast range of theorizing about realism, representation, reality, and art that has taken place since the late eighteenth century.

In passing let me remind you that most picturemakers in the Western world claimed to be realists of one sort or another. Most conventions of representation have been acceptably realistic in their own time. Vermeer and seventeenth-century Dutch realism in general were rediscovered and celebrated in the nineteenth century. The Romanticists of the early nineteenth century claimed to be realists. Courbet, the Barbizon painters, Manet, and the Impressionists claimed to be realists. Why else all the commerce between Romanticists, realists, and the impressionists? Even the Cubists claimed to

be realists. The Surrealists obviously claimed to be realists—or super-realists (reality for them being in the unconscious, etc.—but still based on an extension of conventions developed for conscious reality). In 1968 an exhibition was mounted at the Museum of Modern Art, directed by E. C. Goossen, called “The Art of the Real, USA 1948–1968,” which contained no work based on Renaissance conventions; it contained work which was almost entirely geometric—but geometric in the form we have come to accept as abstract—work by such artists as Barnett Newman, Ellsworth Kelly, Frank Stella, Kenneth Noland, Agnes Martin, and Donald Judd. The “realism” of Pop Art, the New Realism, and Photo Realism in the painting of our time rephrases many of the old questions in the form of new proposition. Is the reality of Photo Realism the reality of photography, or of some absolute world, or of some combination of past and present?

Hasn't our reality itself become abstract and propositional? Can we agree on any one convention for its representation? It should be fair to say that today there is widespread confusion not simply over reality in art but over reality itself, and that that confusion began at about the same time photography appeared—long before Einstein's theories of relativity (and Freud's psychoanalysis) but in fact already heading in that direction. Perhaps one can say that picturemaking was already beginning to suggest the radical difference between Newtonian physics and what would become the relativist revolution of Einstein. The revolutions against traditional conventions for visual representation parallel, if they do not precede, the revolutions in other fields investigating reality.

There always has to be some motive for rebelling against stereotyped ways of seeing (and making). That motive, or part of it, may be a growing discomfort with, displeasure with, or disbelief in, a reality (personal or general), or in a currently accepted convention of representing that reality. It may come about as the result of becoming conscious of the *fact* of conventions or mental sets—becoming conscious of one's own blinders. Then the motive may result from the question: what might we gain if we could remove conventional blinders—or more accurately, since they cannot be easily removed, how will we see differently if we try to be more conscious of the restrictions imposed on our perception by the conventions? For the viewer the result might be a lessened possibility of being easily manipulated by images—he/she would check the tendency to “fall through” the frame. But there is more to be had than this, there must be, since one can only stand that kind of ironic reserve and suspicion for so long.

The question becomes: What new things will we see, how will we respond differently, and what can we learn about the past or the present or the future by remembering that pictures are only pictures made by people and are largely based on learned and inherited conventions? And that the pictures are defined, delimited by other people, their use, and their contexts?

But we're getting ahead of ourselves. We must return to 1839.

Once photography was accepted as a scientific/mechanical/natural medium of representations (whether “true” or not), an interesting paradoxical situation regarding Western man's “picture of reality” evolved. Renaissance art had structured Western man's picture of reality. In 1839 that picture was “proved correct” by photography, and yet that picture led to a period of confusion about what both art and reality were. What in fact was happening, however, and sort of beneath the surface, was a questioning of the very idea of a reality—whether seen, pictured, believed, or known.

The fact is that both photography and painting investigated the nature of that reality—or, more accurately, its picture. And the significant paradox of this is that painters and photographers did this sometimes in the same ways (holding largely to the inherited Renaissance convention) and sometimes in different way (trying to break through the restrictions of that convention as a result of sensing a lack of correspondence with experience). The complexity of this was thoroughly

compounded by the question of whether photography was art or science, and indeed whether there was any real difference between art and science in terms of the investigation of reality.

As a result both painting and photography—or more precisely, both painters and photographers—were left in an ambivalent state.

Photographs, while conforming to Renaissance conventions, began to reveal pictorial possibilities (detail, blur, multiple views, fragmented features) never before seriously considered. At first these revelations came largely by accident (aided by the relative quickness of getting a finished product even by those who were new to the picturemaking game), but soon they began to come by design—that is, with the conscious intent of the picturemaker. It was these accidents, these new pictorial possibilities, which seemed to be the result of science or the machine, which, perhaps even more than the adherence to geometric optics, supported the wholesale acceptance of photography's automatism.

This set of circumstances (and undoubtedly there are other factors) led to a *new* separation of kinds of pictures—Art, it was said, must be something else, something involving the hand, or genius, or—something other than what people did with photography (though, of course, people—the photographers—were for the most part discounted in terms of the camera's result). Photographers provided aesthetic experience (a different kind of knowledge?).

Interestingly, this new separation (the result of the basic question/answer) led to new ways of picturemaking which found their way into pictures produced with all media—including photography itself. For conventions will be adapted by picturemakers and *they* will find ways of making their medium conform. Optically-formed conventions, when seen in the work of Vermeer, Degas, Duchamp, were considered aesthetic; the same conventions seen in the camera obscura, in the work of Braun and Marey, were considered technological, mechanical, or scientific.

That they were conventions was almost impossible to be seen by those whose mental set forced them to believe what they thought they saw in a photograph. I need only remind you of the incredible number of newspaper accounts at the birth of photography which spoke to its magical *taking* of nature—or of the magazine, *The Daguerreotype*, which had nothing to do with photography but used the word as its title to impress its readers with the truth or reality of the *words* it contained. This of course reflects the nineteenth-century shift from blind belief in an unknown God in man's image, to blind faith in an unknown God in a machine's image.

In less theoretical terms, but being conscious of making generalizations, let's look at two broadly structured categories of nineteenth-century photographers: those who saw themselves as artists and those whom we might call amateurs, pseudo-scientists, and others (job-hunters? money-seekers?) who were less well-defined in the nineteenth century but who today occupy a vast number of recording/investigating/reporting positions in our highly specialized world of work, and who all accepted and accept the mechanical nature of photography as a given.

The would-be artists among the early photographers were led to try to make pictures which looked like art (something generally related to the Renaissance convention but which was assumed to be unscientific, unmechanical, untechnical, and therefore unphotographic—an interesting confusion). This meant that their conventional blinders were made to be even more restrictive (conservative) than most and therefore forced them to, not so much imitate other specific pictures as to conform to the general conventions of the pictorial past (immediate or long-term), and (and this is very important) this was true as much for the photographers who used the daguerreotype process (with its well-known characteristics), as it was for those who used combination printing or any other technique or process. These picturemakers worked overtime to *overcome* the new pictorial

possibilities revealed by the new medium. This may sound like what Newhall and others have said but it's not the same—the point is different. It does not ask for or suggest a *pure* or *straight* or *photographic* photography—whatever that may be.

This approach, as always is the case (see the history of printmaking techniques), slowed the development and understanding of the medium—slowed the development of new ideas (conventions) about pictures and therefore about reality. It did not, however, stop that process.

The other, larger group, one might say, simply proceeded to blithely make pictures, without great concern for art. Obviously, they too conformed largely to the inherited major conventions of picturemaking. (We have, I hope, established how difficult it is to make a picture that doesn't have a family resemblance to pictures seen.) What they did, however, and usually not by choice, was to allow the “accidents” to happen. These un-art-educated results almost as slowly began to reveal unusual things which people saw either as technical mistakes (blur for example), or as Benjamin and others thought—as unconscious mechanical revelations of new truths about the world and its reality (daguerreotype detail, the fragmented forms and figures at the edges of the frame, the non-accidental Muybridge/Marey pictures pertaining to animal locomotion, etc.).

How you deal with these observations historically depends on how you define “mechanical,” “unconscious,” “accident,” “truth,” and “reality” in terms of photography. But however you define them the fact remains that these “new pictorial results” slowly began to transform our pictorial conventions of representation and therefore our visual perception of the world or the pictures of it (though not necessarily in that order). In other words, they promoted new ideas about life and times in a century when many other new developments were doing the same thing (the telegraph, the railroad, the steamship, positivism, etc.). And later in the century these were joined by the numerous and increasingly rapid revolutions in printing and reproduction which in symbiotic relationship produced the new, complexly-dimensional realities of the twentieth-century world. Paradoxically again, as the realities grew more complex, the world became for most people more and more locked into a universal set of photographic conventions for representing itself, while artists using photography as well as paint and a multitude of other means continued to question the pictures, their conventions, and the reality those pictures and conventions represented.

Thus the painter Paul Delaroche was right in 1839 when he said, “From this day forward painting is dead.” Not that the medium was dead, but that certain major conventions associated with it were dying. Photography was only one of the causes of that long slow death, but it was a major cause. For in paradoxical ways it paved the way for the acceptance of the new possibilities opened up by those who tried with great effort to find other definitions for art, by those who began to take serious note of photographic “accidents,” and by those who began to question a reality equated with a geometrically perspectivized picture.

Either non-photographic picturemaking was becoming something different from what pre-photographic picturemaking was, or all picturemaking was becoming different and photography, a medium invented in the image of the pre-photographic art media, but clearly capable of being used to make and follow different conventions, was the watershed which would become the basis for new visual ideas of representation in the twentieth century, where the sharing between media has become commonplace—just as the steam engine railroad, which was invented in the image of the covered wagon, became the basis for new ideas of locomotion in the twentieth century.

This is why photography's history must be part of the history of all picturemaking. It cannot be seen as something separate or as something of another class, for it is, no less than any other kind of picturemaking medium, a part of how we make our worlds.

And this is why inquiring into the reason for the asking of the question, “Is photography art?”, into the reason for its so loudly and consistently given response, and into the effects of that response on all forms of picturemaking and their histories for so many years, is so important. Our recognized worlds—the ones in which we have operated—are directly related to the systems made believable by that question and answer. If we had been led to believe in the art-ness of photography—in man’s control—we would not have been so easily manipulated.

Theory and history in this context may be synonyms. We may not need either history or theory to be able to enjoy pictures in an aesthetic sense. We do need them in order to maintain our freedom, to avoid being manipulated by a system or a time or an individual. We need them in order to understand how pictures have contributed to the making of past and present worlds, how they have modified or directed our perception of our worlds and therefore of ourselves—indeed, how they have made the visual worlds what they have been and are.

Walter Benjamin was wrong when he compared the relationship between the magician and the surgeon to that between the painter and the cameraman, saying, “The painter maintains in his work a natural distance from reality, the cameraman penetrates deeply into its web.”²¹

Both the painter and the cameraman are up to the same tricks, as should be apparent, if not from what I have said, then surely from what the great magician, James Randi, said about us all when he wrote:

It is the ability of the human mind to arrive at conclusions with an incomplete set of facts or insufficient sensory data that the magician uses to achieve some of his most potent illusions. Without such a facility, the human organism—in fact any animal—would be unable to function; for every moment, we make assumptions about our surroundings that are based upon flimsy evidence, bolstered by memories of past experience in similar circumstances and by the presumption that the world is pretty much the way it was when last we tested it in this particular way.²²

As long as a photograph is accepted as a mechanical representation, the world it presents will be accepted as being pretty much the same way it was when it was last tested in a photograph—or a Renaissance painting. And there are many magician photographers and magician-painters who capitalize on that knowledge. This is why we need a history of picturemaking that confronts all pictures with hard questions about their relationships to worldmaking.

I’d like to conclude by letting Edwin Land, a man who has done much to “demonstrate the identity of the artistic and scientific uses of photography” in our time, have the last and somewhat frightening word. The following is from “Notes on Polavision,” published in *The Polaroid Report 1977*.²³

We are told that long before there was writing and reading, the sense of history was carried by word of mouth from place to place and time to time and generation to generation, and what was transmitted by word of mouth were pictures, not the still pictures of the last century but moving pictures of going and coming and fighting and loving and herding, and the story teller and the story listener would presumably unite in visualizing into their present time and their present place what had happened elsewhere in another time. This reinstatement of past times and distant places for immediate reliving provided both pleasure and expansion of person and soul. . . . The adventure in which our group has been involved has been the creation of a technological aid to this nearly eternal mythological process of movie making. Our dream has been to revere and preserve this prehistoric process, insinuating into it a procedure so subtle that it supports, with a minimum of mechanical distraction, our primeval competence in image making and image transmitting. . . . By stripping away all technological, electronic, and mechanical delays and intricacies, we have sought to push the movie-process toward the simplicity of our cortical-verbal competence. For only then can our synthetic

movies become an adjunct and a partner to our biologic movies. . . . The fulfillment of the dream is implied by the following pictures of Julia who at one year utilizes the Polavision player and the Phototape cassette to tell herself her story of herself and, in the essential spirit of the mythological process, to point out the images of herself as more real than she is.

Notes

1. This paper was presented on April 6, 1979, as part of "Towards the New Histories of Photography," held at the Art Institute of Chicago, spring, 1979.
2. "Some Methods for Experiencing Photographs." *Aperture* 5:4 (1957), pp. 156-71.
3. E. H. Gombrich, *Art and Illusion*, 2nd rev. ed. (Princeton, N.J.: Princeton University Press, 1961), pp. 84-5.
4. Nelson Goodman, *Ways of Worldmaking* (Indianapolis, Ind.: Hackett Publishing Co., 1978), passim.
5. Esp. J. J. Gibson, *The Perception of the Visual World* (Boston: Houghton-Mifflin, 1950).
6. Among these were: Stephen Pepper, *Principles of Art Appreciation* (New York: Harcourt Brace and Co., 1949); Rudolph Arnheim, *Art and Visual Perception* (Berkeley: University of California Press, 1954); William M. Ivins, Jr., *Prints and Visual Communication* (Cambridge, Mass.: Harvard University Press, 1953); and Gombrich, *Art and Illusion*.
7. Ivins, op. cit., p. 180.
8. John Szarkowski, "Photography, A Different Kind of Art," *New York Times Magazine*, April 13, 1975, pp. 16ff.
9. The exhibition traveled to various museums; the book was published at the University of New Mexico Press, Albuquerque, 1964.
10. Carl Chiarenza, review of A. Scharf, *Art and Photography*, and R. Rudisill, *Mirror Image*, in *Art Journal* 31:3 (1972), pp. 338-50.
11. H. H. Arnason, *History of Modern Art*, 2nd ed. (New York: Abrams, 1977).
12. Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in *Illuminations* (New York: Schocken Books, 1968), p. 228.
13. *Ibid.*, p. 229.
14. *Ibid.*, pp. 237-9.
15. Gombrich, *Art and Illusion*, p. 278.
16. One recent attempt to explore aspects of this discussion was the didactic exhibition of photographs and text called "Eye of the West: Camera Vision and Cultural Consensus," directed by Peter Schlessinger and mounted at M.I.T. in 1977. A related essay by Schlessinger appeared in *East/West* magazine, February, 1978.
17. Suzi Gablik, *Progress in Art* (New York: Rizzoli International, 1977).
18. See for example, S. Y. Edgerton, Jr., "Linear Perspective and the Western Mind: The Origins of Objective Representation in Art and Science," *Cultures* 3:3 (1976), pp. 77-104.
19. Gombrich, *Art and Illusion*, p. 33.
20. Quoted in G. H. Hamilton, *Painting and Sculpture in Europe 1880-1940* (Baltimore, Md.: Penguin Books, 1967), p. 64.
21. Benjamin, "The Work of Art in the Age of Mechanical Reproduction," p. 235.
22. James Randi, "The Psychology of Conjuring," *Technology Review*, January, 1978, p. 56. This article was brought to my attention by Dr. Martin Cohn.
23. Quoted by Martha Chahroudi in a review of M. Olshaker, *The Instant Image*, in *Exposure* 16:4 (Winter 1979), p. 40.