chapter 1

From Blurs to Big Business

Surprisingly few new art forms have been invented in the course of recorded history. Depending on how such terms as "art" and "new" are defined, the novel as a form of literature may qualify, as may rock 'n' roll and other kinds of electric and electronic music. More recent candidates include computer graphics and the current wave of digital creations known as multi-media.

One form that certainly qualifies is photography. From its beginnings as a technological curiosity, it has grown into one of the most important influences in our society and culture. Every day, we encounter hundreds of images produced with cameras and film. We learn about the latest fashion trends from photographs – and about the latest war or famine. We also learn about the remarkable planet on which we live and about the people with whom we share it.

HISTORY

There is no single correct answer to the question of how and when photography began. No one person can be credited with inventing it. Instead, it emerged through centuries of tinkering.

The first printed photographs were made between 1816 and 1840. The first recorded discovery that certain chemicals turned black when exposed to light was made in 1725. The basic design of the cameras we use today has been in use since the 1500s. The Chinese figured it out even longer ago than that – as early as the fourth century. So, photography is between 1,500 and 150 years old.

Prelude

The first stage of photography's evolution in Europe was the ***camera obscura,*** which is Latin for "dark chamber" (*camera* = chamber or room; *obscura* = dark). The camera obscura was a room, or a small building, with no windows. One tiny hole, fitted with a lens, projected images from outside the room onto the far wall inside it.

The image was upside down and not generally very clear, but it was good enough to become a useful tool for artists. The projected image could be traced, providing an accurate sketch, which might then be developed into a painting. Portable versions of the camera obscura were developed by the 1660s. The camera existed, but photography hadn't even been imagined yet.

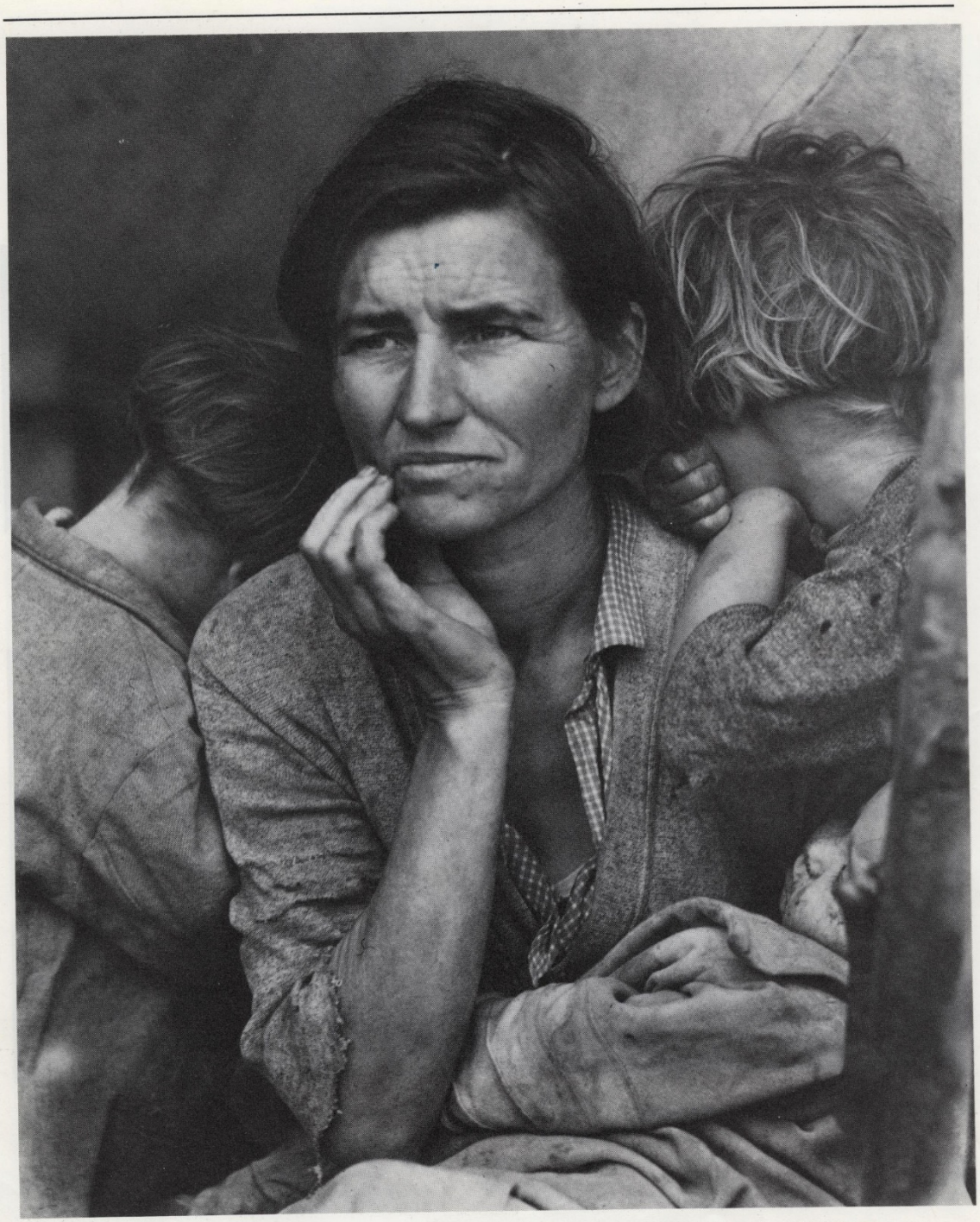
In 1725, a German professor of anatomy, Johann Heinrich Schulze, attempted to produce a phosphorescent stone (one that would glow in the dark). He mixed powdered chalk into a nitric acid solution and was surprised to discover that the mixture turned purple in sunlight. After investigating, he discovered that his experiment had been contaminated with silver salt (silver chloride) and that this was causing the reaction to light.

Schulze was curious enough about this phenomenon to experiment with it. He covered bottles of his mixture with stencils so the light would "print" letters onto it, but the letters would disintegrate as soon as the mixture was disturbed. Evidently, he never thought that his discovery might have any practical application.

Early Prints

In 1777, a Swedish chemist, Carl Wilhelm Scheele, repeated Schulze's experiments. He also discovered that ammonia would dissolve the silver chloride and leave the image intact. With this second discovery, the basic chemistry of photography (exposing silver chloride to produce an image and "fixing" it with ammonia) was established, but – again – what it might lead to was not recognized.

Forty years later, the plot began to thicken. A number of people began trying to produce a photographic image on paper. In France, Joseph Nicephore Niepce developed an



Dorothea Lange, Migrant Mother, Nipomo, California, *1936. Gelatin silver print. Library of Congress, Washington, D.C.*

Joseph Nicephore Niepce, world's first permanent camera image. Courtesy Gernsheim Collection, Harry Ransom Humanities Research Center, The University of Texas at Austin.

emulsion (a light-sensitive varnish) out of bitumen of Judea, a kind of asphalt. Instead of turning black, this material is hardened by light. So, to produce an image, Niepce coated a glass or pewter plate with his emulsion, exposed it to light and then washed the plate with solvents. The solvents dissolved the unexposed (and still soft) emulsion, producing a print: the world's first permanent camera image. It was only some blurs of light and dark, and the exposure reportedly took eight hours, but it was a real image.

Meanwhile, a painter in Paris named Louis Jacques Mande Daguerre was also trying to produce a camera image. He got in touch with Niepce and the two worked together on the problem. Niepce died, poor and discouraged, a few years later, but Daguerre continued (with Niepce's son Isadore as his new partner).

Daguerre was convinced that silver was the key to producing a better image than Niepce's asphalt prints. In 1835, his conviction paid off. He discovered that if a silver plate were iodized (treated with iodine), exposed first to light and then to mercury vapor, and finally "fixed" with a salt solution, then a visible, permanent image would result. This discovery formed the basis for the first photographic process to be used outside of a laboratory: the **daguerreotype.**

In England, William Henry Fox Talbot was also experimenting with camera images. By 1835 he too had succeeded in producing a number of photographs. With his process, the first exposure produced a negative image on paper treated with silver compounds. The exposed paper was then placed over a second sheet of treated paper and exposed to a bright

light, producing a positive image on the second sheet.

Thus, Talbot's process—called a **calotype** or talbotype—enabled photographers to make multiple copies of a single image. This was not possible with a daguerreotype, which produced a positive image directly on a metal plate. Because the calotype's image was transferred through a paper negative, however, it was not as clear as the daguerreotype.

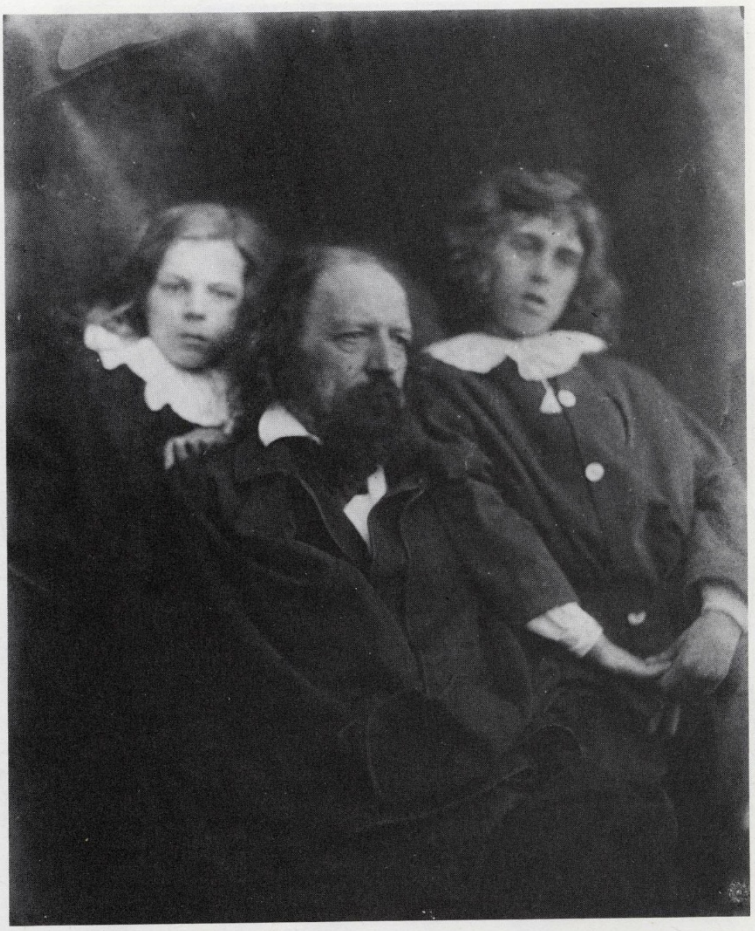
In 1851, another Englishman, Frederick Scott Archer, introduced the **collodian** wet-plate process, which offered the best of both worlds: a high-quality image and multiple copies. Talbot tried to claim credit and licensing rights for this new process as well. In 1854, the courts overruled him and followed Archer's wishes by making the process freely available to everyone.

The collodian process, like the daguerreotype, was difficult to use. First, a clean glass plate had to be evenly coated with collodian (a substance similar to plastic and containing potassium iodide). While still damp, the plate had to be dipped into a silver nitrate solution, inserted into the camera and exposed. It was then developed immediately, and finally allowed to dry. If the plate dried before the process was complete, the emulsion would harden and the photograph would be ruined. It wasn't easy, but it worked.

Photography Goes Public

Photography, dominated by the collodian and daguerreotype processes, began to take off. Cameras were set up in studios and loaded onto carts to photograph portraits, landscapes and battles. Tourists collected inexpensive prints of local attractions, called **cartes-de-visite,** by the thousands. The stereoscopic camera (which produced a three-dimensional effect by combining two images) was introduced in 1849. By the 1860s, no parlor in America was considered complete without a stereo viewer and a stack of slides to entertain guests.

Photography had more serious uses as well. As early as the 1850s, books of photographs were published showing the harsh conditions of life in the streets, factories, mines and slums of England and the United States. Lewis Hine, a sociologist, produced powerful photographs of children who worked long hours in



Julia Margaret Cameron, Alfred Tennyson with his sons Hallam and Lionel, *1865–69. Albumen print, 10½ x 8¼" (27 × 22 cm). Gift of David Bakalar, 1977. Courtesy Museum of Fine Arts, Boston.*

Lewis Hine, Doffer Girl in New England Mill, *c 1910.*

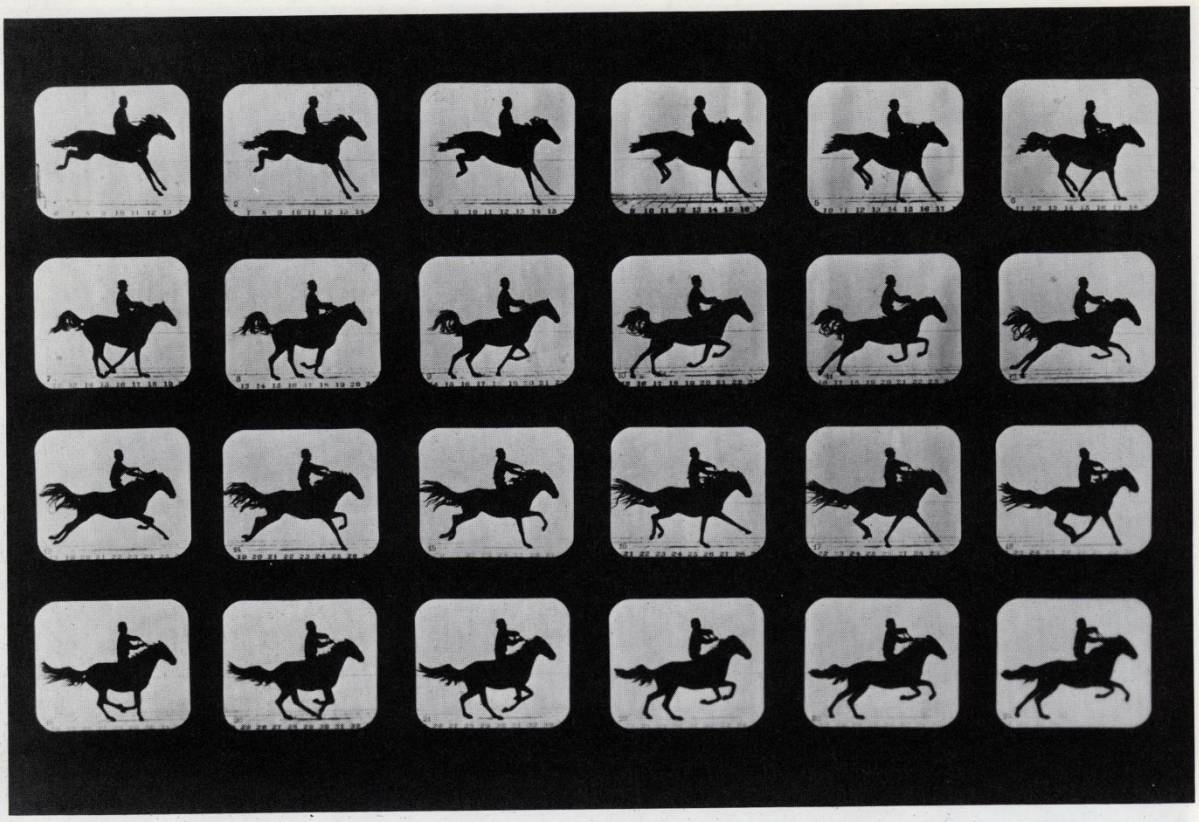
textile mills and other industries. His work helped to bring about new laws to protect children's rights.

At the start of the Civil War, a successful portrait photographer named Mathew Brady asked President Lincoln for permission to carry his cameras onto the battlefields. Permission was granted, and Brady and his staff compiled a remarkable record of that tragic period of American history. Like many of photography's pioneers, he paid for the project almost entirely by himself and died penniless as a result.

In the 1880s, Eadweard Muybridge invented a device called a **zoopraxiscope** which produced a series of images of a moving subject. It is said that he did so to settle a bet as to whether or not running horses lifted all four hooves off the ground at one time. By photographing a horse with his device, he proved that they do. He also contributed tremendously to our understanding of how animals (and humans) move.

These and other similar uses of photography often achieved a high degree of aesthetic quality—a high degree of art. Their primary purposes, however, were practical: to promote social reform, record historical events and aid scientific investigations.

Mathew Brady, Magazine in Battery Rodgers, *1863. Library of Congress, Washington, D.C.*



Eadweard Muybridge, Attitudes of Animals in Motion, *c 1881.*

But Is It Art?

At the same time, another group of photographers were dealing with the purely aesthetic issue of how photography relates to the traditional arts, particularly painting. Is photography an art at all? If so, how should it be used? What should "art photography" look like? These same questions continue to provoke discussion and argument even today. Photography is still defining itself.

By the 1850s, two opposing factions of artist-photographers had been established. The Pictorialists, led by Oscar Rejlander and Henry Peach Robinson, believed that a photograph should look as much like a painting as possible. Their idea of what a *painting* should look like was heavily influenced by the Romanticist painters (such as Delacroix). The Pictorialist photographers, like the Romanticist painters, believed that an artist should improve upon nature by using it to express noble ideas. Both favored elaborate illustrations of scenes from ancient mythology.

The other faction called themselves Naturalists. They were led by Peter Henry Emerson and George Davison. The Naturalists believed that a photograph should capture nature's own truth. They preferred the Barbizon painters, who took their easels out to the forests, fields and streams, and painted them directly. The Naturalist photographers did the same with their cameras, specializing in peaceful scenes of country life. They were also increasingly fond of using soft focus (blurred edges) in their photographs.

Despite the differences between them, both the Pictorialists and the Naturalists believed that a work of art ought to express a "correct sentiment" and that it ought to be decorative—pretty. This is what most set them apart from the "practical" photographers, like Brady and Muybridge, whose work showed the hard edges of reality, with all its flaws.

Peter Henry Emerson, Gunner Working Up to Fowl, *c 1886.*

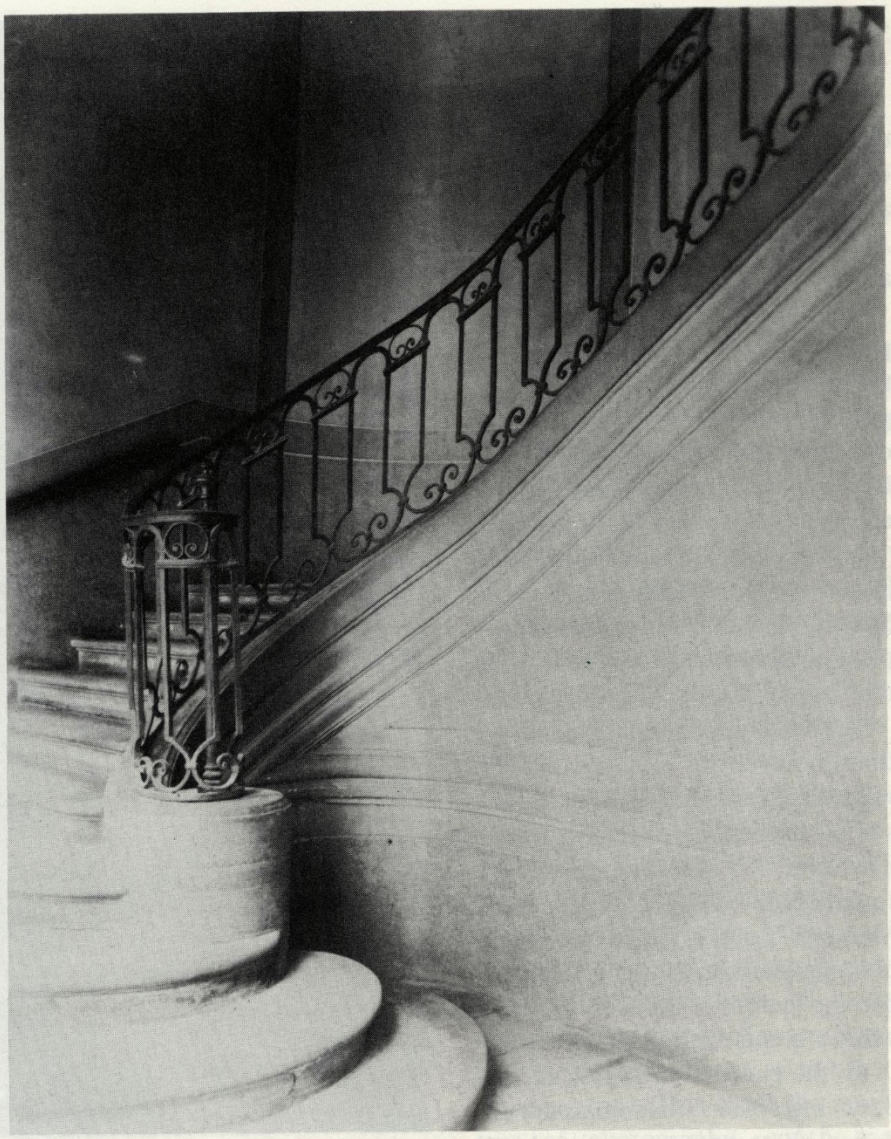
New Tools & Processes

In the late 1880s, flexible film appeared for the first time, replacing clumsy and heavy glass plates. By the 1890s, George Eastman had introduced the Kodak camera, the first that was reasonably easy to use. The camera itself was simple: a box with a lens, a cord to cock the shutter, a button to release it and a crank to wind the film. What made this camera special was that it came loaded with enough film for 100 photographs. When the film was used up, the entire camera was returned to the Eastman Kodak Company. The film was then developed and printed, and the camera was reloaded and returned, ready for another 100 photos. Eastman's slogan was "You press the button; we do the rest." (The name "Kodak," incidentally, doesn't mean anything. Eastman selected it because he felt it would be easy for people to remember.)

In 1925, Leica introduced its "miniature" camera, the first to use 35mm film. Though not quite as simple to use as the earlier Kodak model, it was technically more sophisticated and quite a bit smaller As a result, amateur photography became an international passion.

Other technical advances continued to appear all the time. The first commercial color film, Autochrome, hit the market in 1907. Autochrome produced transparencies (slides) that could not be enlarged very much without showing the grain of the starch dyes used to create the image. It also took fifty times as long to expose as black-and-white film.

Then, in 1935, Kodak introduced Kodachrome, an improved slide film, followed in 1941 by Kodacolor, for making color prints. The family photograph album, which had existed for only 100 years, was now both widespread and increasingly in full color.



Eugene Atget, L'Escalier de L'Hotel Charron, *1900.*

A New Breed

Photography was coming into its own, both as an art and as a business. Alfred Steiglitz united photography and painting by opening "Gallery 291," which exhibited new work in either medium. In his own photography and in his critical judgment Steiglitz promoted a lively realism that eventually became the standard for art photography. From 1902 to 1917, he published *Camera Work,* the first magazine devoted to artistic approaches to photography.

In Europe, André Kertesz, Eugene Atget, Brassai, and Henri Cartier-Bresson were among the most notable of the new wave of artist photographers. They each devoted themselves to capturing life as it really was, in the boulevards and back alleys and country lanes of Europe. Yet each did so with a distinct and original style, a unique "way of seeing." They saw that photography was a new and indepen-

Edward Steichen, Gloria Swanson, *1924.*

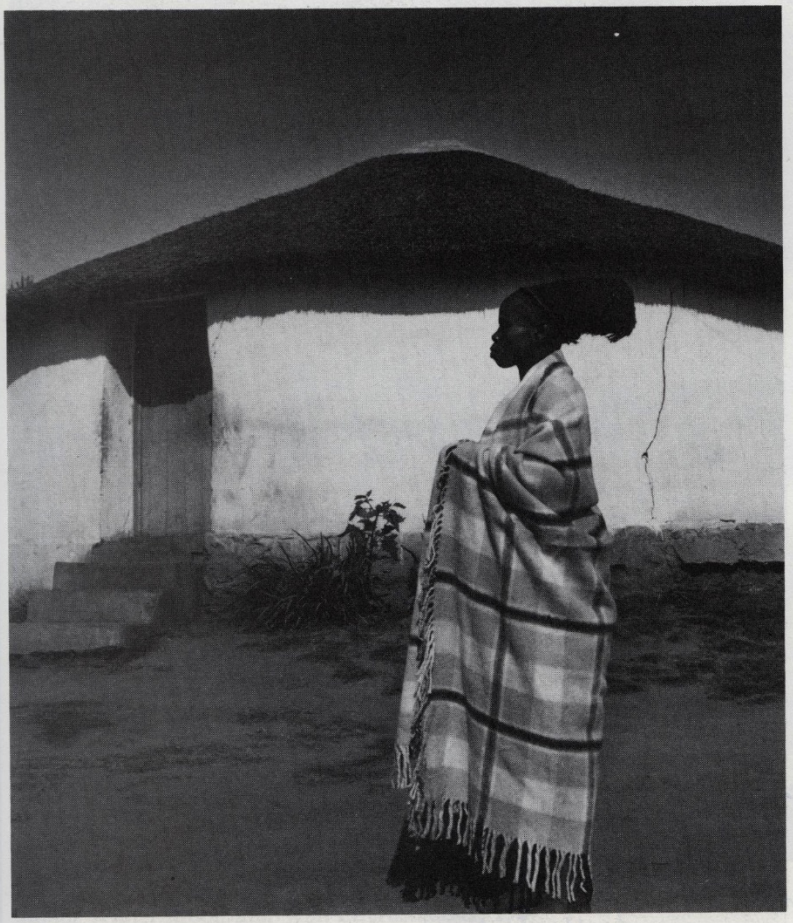
dent art, not merely a cheap imitation of painting. Because of this, they—along with Steiglitz and other American peers—may be thought of as the first modern photographers.

More practical applications of photography also continued. One of the most notable examples was a photographic survey, begun in 1935, of conditions during the Great Depression. Dorothea Lange, Walker Evans and other first-rate photographers were hired by this project by the U.S. government's Farm Security Administration and compiled hundreds of photographs that rank among the best ever produced.

The use of photographs in publications, a novelty as recently as 1900, was expanding rapidly. *Life* magazine started in 1936 and began a whole new kind of publishing: photojournalism. Alfred Eisenstat, Margaret Bourke-White and other photographers on *Life's* staff quickly became famous as they recorded the world's events with their cameras.

By the end of the 1930s, all the basic ingredients that continue to define photography were in place: Photography was increasingly ac-

1937	1938	1939	1947	1954
The SLR (single lens reflex) camera introduced to the U.S. by Exacta.	**Automatic exposure initiated by Kodak with its 6-20 camera.**	**Electronic flash developed by Dr. Harold Edgerton.**	**First Polaroid camera developed by Edwin Land.**	**First high-speed film, Tri-X, comes onto market.**



Yousef Karsh, Ethiopian Bride, *1963. Courtesy Woodfin Camp and Associates.*

cepted as an art in its own right. Photojournalists were a major source of information and insight for the general public (a role that has since been largely taken over by television reporters). Advertising had begun using photography to catch attention or communicate a message. Portable cameras had made snapshots a national hobby.

Where Now?

The list of technical advances in photography continues to get longer and longer (see the photographic time line), and the ranks of great photographers has expanded steadily as well. Edward Steichen, Minor White, Sebastião Salgado, Edward Weston, Ansel Adams, Diane Arbus, Ernst Haas, Eugene Richards...the list is long and subject to fierce debate.

Photography is still a young art. Painting, sculpture, writing, dance, acting and music have all been around for thousands of years. Even they continue to change at an often alarming rate. This is all the more true of photography, which has

1959

Development of first zoom lens, the Zoomar 36-82.

1966

Konica introduces first professional quality automatic exposure camera.

1972

Polaroid adds color to its instant cameras.

1985

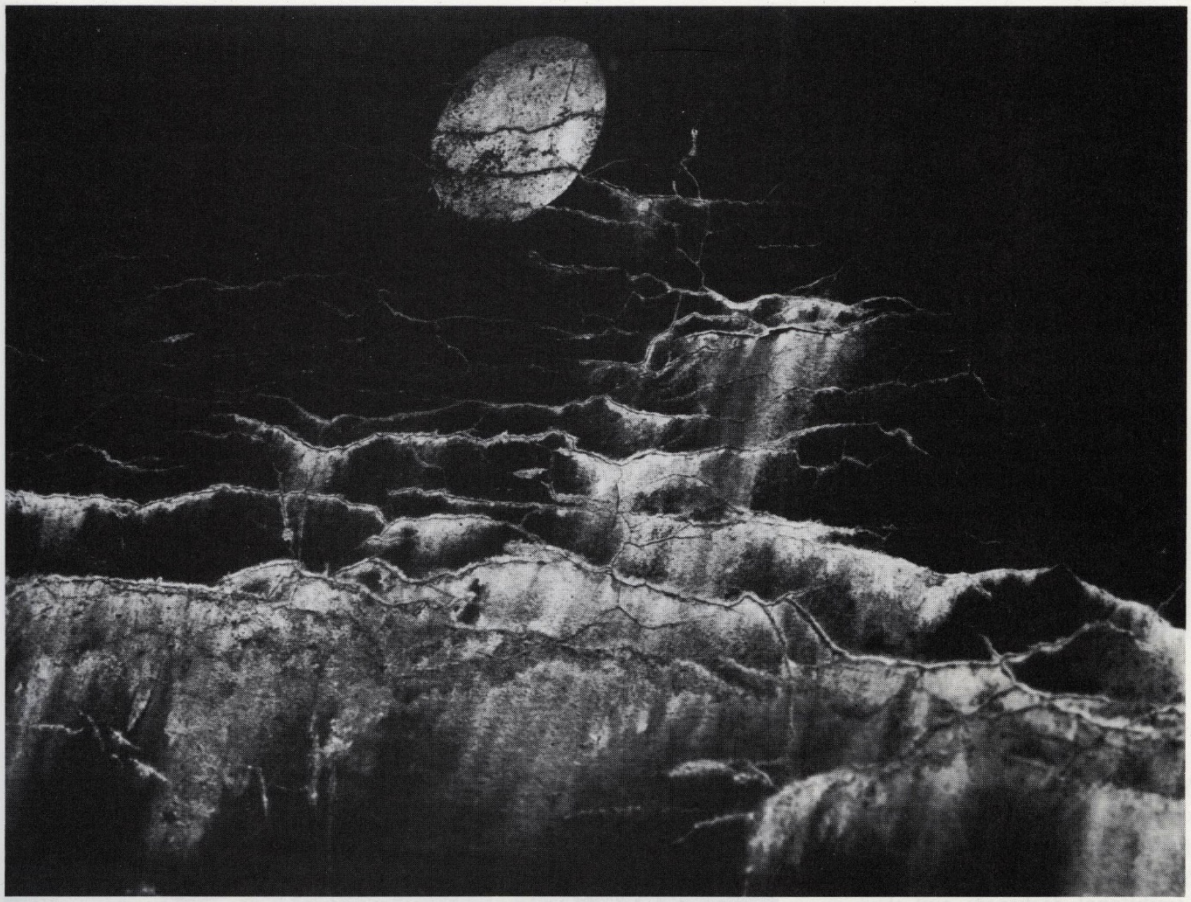
Minolta introduces the first professional quality automatic focus camera, the Maxxum.

1987

Canon debuts first "Commercial Still Video" system.

1991

Kodak launches Photo CD system and digital camera.



Minor White, Moon and Wall Encrustations, *1964.*

barely passed its first century of widespread use.

With most of the traditional arts, change has primarily been a matter of style. Michaelangelo and Picasso used essentially the same materials and techniques to produce vastly different results. Writers may use computers now, rather than quill pens, but the process of writing hasn't really changed very much since Shakespeare's day. Writing styles, however, have changed enormously.

In the case of photography, almost the opposite is now true: Photography's essential nature (what it is and how it works) is in the midst of radical transformation – a technological revolution. Photography itself is mutating into something new and strange and unpredictable. Compared to that, stylistic changes hardly seem to matter.

What is actually happening is that photography (along with computer graphics, electronic music and other technology-based arts) is moving away from the traditional, "manual" arts (such as painting or classical music). As a result, we are discovering entirely new ideas of how art may be created and experienced.

The old distinctions between one form of art and another are breaking down. Words, images and music are all beginning to merge. The music videos on MTV are one typical example of this trend. They aren't simply songs and they aren't quite movies. They are a new hybrid: music and film merging into a new form of creative expression. Some of them tell stories. Some are more like mini-documentaries. Some resemble the song-and-dance numbers of a Broadway musical. Similarly, it is increasingly difficult to define the difference between a painting and a

photograph, or even between a photograph and a poem.

In addition, all of the arts are becoming more participatory. In the very near future, it may no longer be standard procedure for an artist to create some specific "thing" – a photograph or a symphony – which others simply receive by looking or listening. Instead, each individual viewer or listener will have the power to edit, combine and transform an enormous array of images and sounds. Your photograph will be raw material which you may manipulate in any way you please, and to which others may then add their own interpretations – and it will all be done by computer. It is far too early to tell if all of this is actually an improvement, but it is certainly a change.

That is what's coming. But it isn't quite here yet.

We are standing on the bridge between photography's past and its future. And so we are able to move back and forth between them. We can shoot a roll of film on Uncle Frank's old Pentax, make a print in a traditional darkroom and then reinterpret it on a copy machine – or scan it into a Mac and make it all look really weird. There is still a secure place for conventional art photography, and a wide open field for experimentation.

We are at the end of an era – and at the start of a new one. This is a privileged place to be. Enjoy it.

Wedding photography requires technical accuracy, good social skills and and the ability to quickly arrange natural poses for individuals and large groups. Photograph by Donald Butler.

PHOTOGRAPHIC CAREERS

The number of people who earn a "living wage" from any art is always relatively small. Photography is certainly a case in point. Most photographers are hobbyists who take pictures for pleasure. Even many of the best-known art photographers pay their bills by doing commercial photography or other work on the side.

Unfortunately, being "good" or even "the best" won't necessarily make any difference. Many excellent photographers have died penniless. At least a few have made good livings without having much skill or creativity. That's the way of all art – timing, luck and who you know are at least as important as mastering your craft.