Photography began as a curiosity, a modest marvel with limited practical or artistic applications. It has since grown into a major influence on our society and culture. Millions of dollars are spent every year to produce millions of photographs. We all encounter hundreds of them every day, some with none. We learn about the latest fashion trends from photographs — and about the latest famine or war. We also learn, over and over again, about the remarkable planet on which we live, and about the people with whom we share it. All of this has become possible because photography was a curiosity — because someone asked “How does this work?” and “What else can be done with it?”

HISTORY

How long do you suppose photography has been around? Fifty years? One hundred? One hundred and fifty? Two hundred years? Longer?

Any guess over 150 years would be reasonably correct, but there isn’t any one correct answer. No one person can be credited with inventing photography. It didn’t suddenly “happen.” Instead, it was a long, slow evolution.

The first printed photographs were made between 1816 and 1840. The first recorded discovery that 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.” (chamber = 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 artifacts. 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 emulsion (a light-sensitive varnish) pout 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 names 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 daguerrotype.

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 daguerrotype, 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 daguerrotype.

In 1851, another Englishman, Frederick Scott Archer, introduced the collodion 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 collodion process, like the daguerrotype, was difficult to use. First, a clean glass plate had to be evenly coated with collodion (a substance similar to plastic and containing potassium iodine). 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 collodion and daguerrotype 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.
From Blurs To Big Business

Read through the article carefully. Then write a brief note for each of the terms/important names below, explaining their contribution to photography.

**Camera Obscura:**

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**Johann Heinrich Schulze:**

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**Carl Wilhelm Scheele:**

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**Joseph Nicephore Niepce:**

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**Emulsion:**

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**Daguerrotype:**

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- continued on back -
Calotypes:

Colloid:

Cartes de Visite: