

PHOTOGRAPHIC PROCESS GLOSSARY

ALBUMEN SILVER PRINT

Invented in 1850, the albumen silver print was the most popular photographic printing process of the nineteenth century. A sheet of paper is coated with albumen (egg white) and salts, and then sensitized with a solution of silver nitrate. The paper is exposed in contact with a negative and printed out, meaning the image is created solely by the action of light on the sensitized paper without any chemical development. Because the paper is coated with albumen, the silver image is suspended on the surface rather than absorbed into the paper fibers, resulting in a sharp image with fine detail on a smooth, glossy surface.

AMBROTYPE

Ambrotypes are sharply detailed, one-of-a-kind photographs on glass, packaged in protective cases. An ambrotype is essentially a collodion-on-glass negative that is intentionally underexposed so that the negative image appears as a positive image when viewed against a dark background. The process for making ambrotypes was patented in the United States in 1854 by James Ambrose Cutting.

BROMOIL TRANSFER PRINT

The oil printing process, developed in 1904, is based on the fact that oil and water do not mix. First, a sheet of paper is coated with an unpigmented bichromated gelatin solution. When the paper is exposed in contact with a negative, the exposed areas harden. After exposure, the paper is soaked in water, and the unexposed areas absorb water and reject greasy inks that are applied to the paper with a brush. The ink is accepted by the hardened, exposed areas, forming the image. Developed in 1907, bromoil printing is a modification of this process using gelatin bromide paper. After making a positive enlargement on a sheet of bromide paper, the print is bleached to remove the silver image, leaving a gelatin layer hardened and ready to receive the application of ink.

CALOTYPE NEGATIVE / PHOTOGENIC DRAWING / SALTED PAPER PRINTS

The calotype negative was the first to rely on the chemical development of a latent image on light-sensitive paper that had been exposed in a camera. Patented in England in 1841 by William Henry Fox Talbot, the process was an advancement on Talbot's first paper negatives, called **photogenic drawings**, that were produced solely by the effect of light on light-sensitive paper. The chemical development process meant that calotype negatives required much less exposure time than photogenic drawings. One calotype negative could be used to make many prints (at the time, **salted paper prints**), and this negative-positive process was the direct antecedent to modern photographic printing. Calotype negatives were popular during the 1840s for architectural and view photography, though they were largely replaced by collodion-on-glass negatives in the mid-1850s.

CHROMOGENIC DEVELOPMENT PRINT

A chromogenic development print is made on photographic paper that has three silver emulsion layers sensitized to the primary additive colors of light (red, green, and blue). During the developing process, dye couplers bond with the exposed and developed silver halides to produce complementary subtractive color dyes (cyan, magenta, and yellow). The silver is bleached away, leaving a full-color positive image. Due to chemical impurities in the dyes, chromogenic prints are not as stable as prints made with other color printing techniques, such as silver dye bleach prints.

DAGUERREOTYPE

Daguerreotypes are sharply defined, highly reflective, one-of-a-kind photographs on silver-coated copper plates, usually packaged behind glass and kept in protective cases. The first commercially successful photographic process, the daguerreotype was popular through the 1840s and into the 1850s, especially for portrait photography. They were primarily replaced by less-expensive ambrotypes and tintypes, as well as by the improved negative-positive techniques of collodion-on-glass negatives and albumen silver prints.

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GELATIN SILVER PRINT

Introduced at the end of the nineteenth century, gelatin silver prints dominated black-and-white photography in the twentieth century. The paper used to make gelatin silver prints is coated with an emulsion that contains gelatin and silver salts. Gelatin silver prints are developed out rather than printed out, which means that exposure to light registers a latent image on the paper that becomes visible only when developed in a chemical bath.

GUM PLATINUM PRINT

Developed in the 1850s but not used widely until the late nineteenth century, the gum bichromate printing process is a type of pigment print made by coating a sheet of paper with sensitized and pigmented gum arabic. Exposed in contact with a negative, the gum hardens on areas where light reaches the paper. Next, the unexposed gum is washed away, leaving a positive image on the paper. The images can be manipulated further with brushes and water, and can be coated and exposed again to attain multiple layers of color. The resulting prints are characterized by broad tones and soft detail, sometimes resembling paintings or drawings.

PLATINUM PRINT / PALLADIUM PRINT

Platinum prints are characterized by their delicate surface and subtle tonal gradations. They are made by sensitizing paper with iron salts and exposing the paper in contact with a negative until a faint image has formed. The paper is then chemically developed in a process that replaces the iron salts with platinum and intensifies the image. Platinum prints were popular with art photographers around the turn of the twentieth century, but when World War I caused the price of platinum to rise, **palladium** (a related metallic element) was introduced as a more affordable substitute.

SILVER DYE BLEACH PRINT

A silver dye bleach print is made on paper containing three emulsion layers, each sensitized to one of the primary additive colors of light, and each containing a full density of the complementary subtractive color dye. During development, the silver and the unnecessary dyes are selectively bleached away, leaving a final positive print. The process is used for making prints from color transparencies and is noted for its stability, image clarity, and color saturation. Although interest in the process dates to earlier in the twentieth century, it was not widely available until the introduction of Cibachrome materials in 1963.

TINTYPE

A tintype is a non-reflective, one-of-a-kind photograph on a sheet of iron coated with a dark enamel. Its most common use was portrait photography. Like ambrotypes, tintypes rely on the principle that underexposed collodion negatives appear as positive images when viewed against a dark background. Less expensive and more durable than ambrotypes and daguerreotypes, tintypes did not require protective cases and were often kept in simple paper frames or folders. Tintypes first appeared in the United States in 1856, and remained popular well into the twentieth century.

WOODBURYTYPE

Woodburytypes are distinguished from other photomechanical processes by the fact that they are continuous-tone images. The process involves exposing unpigmented bichromated gelatin in contact with a negative. The gelatin hardens in proportion to the amount of light received. When the gelatin is washed, the unexposed portion dissolves, leaving behind a relief of the image. Under extremely high pressure, this relief is pressed into a sheet of soft lead, producing a mold of the image. This mold is then filled with pigmented gelatin and transferred to paper during printing. Invented in 1864 by Walter Woodbury, the process was acclaimed for its exquisite rendering of pictorial detail as well as its permanency.

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