

picturing modernity

THE PHOTOGRAPHY COLLECTION



Unknown, *Untitled*, n.d. Ambrotype. Gift of Robert Harshorn Shimshak, 90.358



Unknown, *Untitled*, ca. 1875. Tintype. Promised gift of Prentice and Paul Sack to the Prentice and Paul Sack Photographic Trust



Désiré Charnay, *Untitled (Three women, Madagascar) (Types Malgaches)*, 1863. Albumen print. Accessions Committee Fund, 95.262



Unknown, *Group Portrait in front of Tents*, ca. 1880s–90s. Cyanotype. Collection of the Prentice and Paul Sack Photographic Trust



David Octavius Hill and Robert Adamson, *Mrs. Anna Brownell Jameson*, ca. 1844. Salt print from a glass negative. Promised gift of Prentice and Paul Sack to the Prentice and Paul Sack Photographic Trust



Nadar, *Portrait of George Sand*, 1864. Woodburytype. Purchased through a gift of Bill Fisher, 97.279

AMBROTYPE

Ambrotypes are named for James Ambrose Cutting, who popularized the process during the 1860s in the United States. A glass plate is coated with collodion (gun cotton dissolved in ether) and dipped in a silver nitrate bath, making it sensitive to light. While still wet, the plate is exposed in a camera and developed to produce a negative with whitish tones in the light areas and clear glass in the dark areas. Backed with an opaque coating or viewed against a dark background, the areas of light and dark read as positive. Ambrotypes do not originate from negatives and are thus unique objects. They require protection in miniature cases because the glass plates and collodion emulsion are extremely fragile.

TINTYPE

Tintypes were extremely popular in America in the 1860s. They are produced on thin sheets of iron coated with an opaque black or brown lacquer. The lacquered metal is made sensitive to light with an application of collodion containing silver salts, then is immediately exposed in a camera and developed. The process is essentially the same for producing a collodion negative, and, in fact, tintypes are negative images; it is the dark, lacquered background that produces the effect of a positive image. Tintypes were often placed in decorative frames or miniature cases like those used to protect daguerreotypes and ambrotypes. Hand painting was frequently employed to compensate for their lackluster tonal range.

ALBUMEN PRINT

Widely used until the 1890s, albumen prints are characterized by their glossy surfaces and sharp image definition. They are made by floating thin paper in an egg-white (or albumen) mixture containing salt. This mixture coats the paper, giving it a smooth, shiny surface when dry. The paper is then made light sensitive with silver nitrate and exposed to sunlight in contact with a negative, which is typically made of glass or waxed paper. The resulting image is permanently fixed by bathing the paper in a solution of hyposulfite and water. Toning during processing, often with gold chloride, yields variations in color and makes the image more permanent.

CYANOTYPE

Cyanotypes were first introduced in 1842 by Sir John Herschel. They are made by brushing ordinary paper with an iron-salt solution that produces bright blue pigments when exposed to light. Once dry, the sensitized paper is placed in sunlight while in contact with a glass plate negative or other image source, such as a plant specimen, until the image appears on the paper. The paper is then washed in water to stop the development process. The materials used to make cyanotypes are essentially the same as those used today to reproduce architectural blueprints.

SALT PRINT

William Henry Fox Talbot first introduced salt prints in 1839. They are made by immersing ordinary writing paper in salt water and then coating one side with a solution of silver nitrate, thereby embedding light-sensitive silver chloride in the paper's fibers. A negative is placed on top of the sensitized paper and exposed to sunlight until an image appears. The print is then made permanent with sodium thiosulfate (hypo) and can be toned for greater permanence and richer hues. Occasionally the paper is pretreated with a thin coating of albumen, which makes the surface slightly glossy. Because multiple salt prints can be made from a single negative, this process made it feasible to reproduce photographs in albums and books.

WOODBURYTYPE

The woodburytype process was patented in 1864 by Walter Bentley Woodbury and used until about 1900 to create continuous-tone photographic reproductions in books. A glass sheet dusted with talc is coated first with collodion and then with bichromated gelatin. When illuminated under a negative, the gelatin hardens in proportion to exposure. The gelatin is then separated from the talc-dusted glass and washed to remove any remaining unhardened material. The result is a relief that is applied under heavy pressure to a lead plate, creating a mold. The mold is inked with pigmented gelatin—usually purplish brown in color—and the image is transferred to paper in a printing press. Unlike other early photo-mechanical processes, woodburytypes lack a grain pattern and are admired for their luminosity and subtle tonal range.



Paul Strand, *Rebecca*, 1932. Platinum print. Fractional and promised gift of Carla Emil and Rich Silverstein, 2003.216



Nicholas Nixon, *The Brown Sisters, New Canaan, CT*, 1975. Gelatin silver print. Fractional and promised gift of Carla Emil and Rich Silverstein, 2000.607.20



Judith Joy Ross, *Untitled, Eurana Park, Weatherly, Pennsylvania*, 1982, printed 1990. Gelatin silver printing-out paper print. Gift of the James Danziger Gallery and Judith Joy Ross, 93.28



William Wegman, *Holding It*, 1987. Dye diffusion transfer prints. National Endowment for the Arts purchase and gift of the Polaroid Corporation, 89.19



Rineke Dijkstra, *Kolobrzeg, Poland, July 26, 1992*, 1992. Chromogenic print. Fractional gift of Shirley Ross Davis, 98.32



Nan Goldin, *Self-portrait with eyes turned inward, Boston*, 1989. Silver dye bleach print. Gift of Olivier Renaud-Clement on the occasion of the opening of SFMOMA for Nan Goldin in memory of Gilles Dusein, 95.130

PLATINUM PRINT

Platinum prints were common from the 1880s until the onset of World War I, when the price of platinum rose prohibitively. This type of print is made on paper that has been sensitized with a solution of potassium chloroplatinate and iron salts. The paper is exposed to light in contact with a negative until a faint image appears. The print is then developed in a solution of potassium oxalate that dissolves the iron salts and reduces the chloroplatinate to metallic platinum in the exposed areas. The resulting image has a velvety surface and subtle range of tonal gradations. As platinum prints do not contain reactive silver, they are known for their permanence.

GELATIN SILVER PRINT

First introduced in the 1870s, gelatin silver prints are still widely used today. Manufacturers offer a range of different black-and-white gelatin silver papers, all of which are coated with an emulsion of gelatin and light-sensitive silver salts. After the paper is briefly exposed to light through a negative (typically by using an enlarger in a darkroom), a chemical developer renders the latent image as reduced silver, which is then fixed and washed. Twentieth-century photographers have made creative use of the silver print's exquisite tonal range, ability to reproduce fine detail, and malleability in the darkroom.

PRINTING-OUT PAPER PRINT

The term *printing out* refers to the gradual emergence of an image when light-sensitive paper is placed in contact with a negative and exposed. Once the image is fully visible, the print is removed from the light, rinsed, toned, and fixed. Many early photographs, such as albumen prints and salt prints, were made using the same procedure, but printing-out paper (often abbreviated *POP*) is typically associated with prints made using a gelatin silver emulsion. Printing-out paper was popular at the turn of the twentieth century and was often toned with gold chloride to create variations in color and to make the image more permanent.

DYE DIFFUSION TRANSFER PRINT

Commonly known as a Polaroid, a dye diffusion transfer print is a kind of envelope containing all of the chemicals necessary to create a color photograph. Three emulsion layers, each sensitive to a different primary color, are interleaved with a corresponding dye and a developing agent. After exposure in a camera, the envelope is pressed between two rollers, breaking open a packet of chemicals and initiating the development and dyeing processes. The dyes migrate through the emulsion layers to the backing, and the negative materials are either peeled away or remain sealed behind the image. The result is a unique color print.

CHROMOGENIC PRINT

A chromogenic print is a color photograph comprised of at least three emulsion layers containing silver salts. Each emulsion layer is sensitive to a different primary color. After the paper is exposed—usually to a negative—and developed, a colorless silver image forms in each layer. The addition of dye couplers, which chemically bind with the products used to develop the silver images, forms dyes of the corresponding colors in each emulsion layer. When the print is permanently fixed, the remaining silver is bleached and dissolved out of the print. Viewed together, the three layers appear as a full-color image.

SILVER DYE BLEACH PRINT

Also known as dye destruction prints, silver dye bleach prints consist of three layers of light-sensitive silver salts and colored dyes. A color transparency projected onto the coated paper produces three positive images of dye and silver, one in each layer of emulsion. The silver is then bleached out, and a proportional amount of the associated dye is also destroyed. Against the white paper backing, the remaining dye layers create a full-color image. These prints are admired for their vibrant color and high-gloss surfaces. They are also durable and chemically stable.