

GLOSSARY

PICTORIALISM,  
the Dawn of Photographic Art

&

IMPRESSION REMAINS  
Helsinki Darkroom  
Festival

28.1.–24.4.2022

The Finnish Museum of Photography  
Cable factory

At the exhibitions, you will come across a number of different terms related to photography and work in the darkroom.

Use this glossary to check what they are all about.

## Albumen print

A photograph printed on a paper base coated with egg white and sensitised with silver salts. The word albumen refers to the protein contained in egg white. Introduced in 1850, the invention became the most popular printing method of the 19<sup>th</sup> century. The paper base of an albumen print is thin, and therefore it is almost invariably mounted on a standard-sized cardboard backing board with decorations.

## Analogue photography

The term analogue photography only came about in the age of digital photography and image processing, with the need to find an expression to refer to the traditional photographic methods of the film age. The term usually refers to photography that uses chemical methods to develop film exposed in an “analogue”, that is, a film camera, but it may also refer to all the photographic techniques that predate the digital age.

## Autochrome

The autochrome color process, devised by the French filmmakers Auguste and Louis Lumière, was the first commercially successful color photography process. The brothers patented the process at the beginning of the 20<sup>th</sup> century, and it went into mass production in 1907. The invention became popular despite the fact that it was a very expensive way to create a photograph and exposure time was ten times that of black-and-white photographs.

The autochrome process uses a glass plate that is treated with dyed potato starch so that it becomes sensitive to three main colors (red, green and blue). When held against the light, a colorful mosaic pattern is seen on the surface. The final photographs are **diapositives** (see **slide film**) of sorts that are viewed against light or with a projector. Diascope was a device designed specifically for viewing autochromes. In addition to viewing in artificial or natural light, the image was often projected onto a screen.

## **The Bromoil process**

An early printing method that was popular in Finland particularly in the 1920's. A Bromoil print is made by first printing the image on silver bromide paper. Next, the paper is bleached, and an oil-based ink is applied to the surface of the wet print using a squeegee or a brush. Often, the print is then transferred from the original paper to watercolour or lithographic paper, in which case the result is a Bromoil transfer print. The result is a painterly, soft-lined print that the printer can further enhance creatively using a brush.

## **Carbon print**

A print in which the image is created using carbon pigment. A carbon print is made by exposing the image onto paper through a negative, with light hardening the pigment gelatin containing chrome salts. The non-exposed areas are rinsed off in the final wash, and the carbon black pigment of the hardened areas forms the image. The carbon process requires special skill from the printer, and it fell out of use in the 1920s. However, it has, from time to time, interested photographic artists of later times.

## **Chemigram**

A chemigram is an image made on light-sensitive material using various chemical compounds. Photographic paper, developer and fixer are commonly used, but experiments can be conducted with an array of materials.

## **Chromogenic colour print**

The most common printed colour photographs are chromogenic colour prints. The chromogenic colour process is what is known as a subtractive colour process. The base of a colour print is a paper that has three surface layers of silver salts that are sensitive to different wavelengths of light. Each layer is sensitive to just one of the three primary colours: blue, green or red. The colours appear during

the development process. At the end of the process, all the silver is removed from the print. Chromogenic colour paper is commonly used to print colour negatives.

### **Chromokedasic Sabatier technique**

Printing technique based on the Sabatier effect. A partially developed print is subjected to light and a chemical compound, and the image is developed and fixed simultaneously. The technique alters the structure of the silver particles of ordinary black-and-white photographic paper in such a way that creates strong colors and dark, mirror-like areas. The Sabatier effect is also called pseudo-solarization, see **solarization**.

### **Collodion print**

A silver image that has been printed on collodion emulsion paper. The collodion process was one of the popular printing methods of the late 19th century. Collodion papers are printing-out papers, that is, they are exposed in daylight and in contact with a negative, and no developer is required. Finally, all the unexposed silver is removed from the paper using a fixer.

### **Contact print**

A print the size of a negative that has been exposed through the negative, directly onto paper. During printing, the surfaces of the negative and the photographic paper are in contact. In the 19th century and the early 20<sup>th</sup> century, photographs were typically contact prints, created using a printing frame. With small frame 35-mm film, contact prints are too small for most applications, so larger prints are usually created using an enlarger. Of course, you can create contact prints from 35-mm film, for example, for the preliminary selection of images to enlarge.

## **Cyanotype**

Also known as a blueprint, this is a photograph printed on paper that has been sensitised with blue-coloured iron salts. Paper sensitised in this way reacts to ultraviolet light, that is, daylight, so you do not need a darkroom to print it. Cyanotypes were made as early as in the second half of the 19<sup>th</sup> century, but the same process is still used today by some artists and photography enthusiasts.

## **Darkroom**

Also known as a photographic laboratory, this is a darkened space in which you can process film or photographic paper so that it is not inadvertently exposed. Darkness is essential in the development of film and the printing of photographs. A darkroom can be a purpose-built space for photographic processing or a temporary unit set up in a barn, sauna, kitchen, bathroom or other domestic space. Darkrooms have been built since the late 19<sup>th</sup> century.

## **Developer**

A chemical used in photographic processes to develop out the latent image that is produced on film, photographic paper or another light-sensitive surface during exposure. In the development of black-and-white photographs, light-sensitive silver salt crystals reduce to metallic silver, which is no longer light-sensitive. There are different developers for each film and printing paper. Different types of developers are used to bring out different characteristics in a print, such as acutance or grain.

## **Diafilm**

Diapositive film, or reversal film, is a film type that produces a positive image on a transparent clear film. The developed film frames can be put in slide frames for viewing as slides, or transparencies, on a slide projector, projecting them onto a screen.

Slides were very popular from the 1960s to the digital age. Diafilm is manufactured in 35-mm format, as roll film of different sizes, and as 8 x 10-inch sheet film, although with digital photography, the range is becoming narrower. Diafilm broke through especially in colour photography, although some black-and-white reversal films were manufactured, as well. Unlike black-and-white or colour negatives, a colour transparency is an original, and its reproduction is expensive and difficult. In practice, only so many copies of a high-quality colour transparency exist as there were successfully exposed frames at the time of taking the photographs.

## **Exposure time**

A period of time during which light reaches an image sensor, film or photographic paper. The exposure time affects the darkness of the resulting image. Exposure time, then, is related to both photography and photographic printing. When photographing, a longer exposure time makes the image lighter: if the exposure time is long and the image is overexposed, areas in the image “burn out”, that is, show as all white. With the enlarger in the darkroom, the length of exposure has the opposite effect: if you expose the image for too long, it turns black.

## **Film**

Film is light-sensitive plastic that is used as a base for photographs and motion pictures. One side of black-and-white film is coated with a light-sensitive emulsion, consisting of silver salts and a binder. The size and other characteristics of the silver salt crystals influence the sensitivity, contrast and resolution of the film. Colour film has at least three light-sensitive layers. Each of these layers is sensitive to light of a specific colour: blue, green or red. Together, these three layers produce all the colours perceived by the eye. Film can be either negative or positive, as diafilm. Films are manufactured in different sizes and from a variety of materials.

## **Gum printing or gum-bichromate process**

Gum printing is a non-silver photographic process based on the use of chromium salts. A mixture of gum arabic, pigments and bichromate is applied to the printing paper. The dried paper is exposed to ultraviolet light as a contact copy, which hardens the gum arabic. Next, the image is rinsed to wash off the unexposed mixture. The print often requires several exposures, and it needs to be sensitised again after each exposure. Finally, it is rinsed, washed and dried. This multi-step process requires precision and skill. Gum printing was very popular among the Pictorialists, and in Finland particularly in the first two decades of the 20<sup>th</sup> century.

## **Latent image**

An invisible image. When a photograph is taken, light travels through the lens of the camera onto film, which has a coating that contains silver salts that react chemically to light. A latent, “invisible” image forms on the surface of the film. In the same way, when a photographic print is being made in the darkroom, the image is exposed on light-sensitive photographic paper, where it is first formed latent. The latent image is made visible by developing the film or print.

## **Laboratory**

A workspace equipped for film and photograph development is often referred to as a photographic laboratory. See darkroom.

## **Lumen print**

A lumen print is created without a camera by utilizing the properties of printing paper in a way in which the paper was not intended to be used. The image is exposed to sunlight or other strong UV light. The exposure time varies between 30 minutes and several hours. The exposed paper is then rinsed in water, fixed and washed. Developers or a darkroom are not needed. Colors emerge on the lumen print

as the silver compounds in the paper react with light. The paper may also be treated before or during the exposure with various chemicals. Humidity, temperature and the amount of UV radiation also affect the end result and therefore it is impossible to control or fully predict. Each lumen print is unique. Photogram techniques are also often used in lumen printing.

## Negative

When photographing with a film camera, the image is captured on a transparent base as a negative, which is then used to create a photographic print in the darkroom. The tonal range of a negative is the reverse of the photographed subject: for example, light sky comes out dark in the negative and vice versa. Correspondingly in a colour negative, green grass comes out as red, but when the image is printed on colour photographic paper, the colours are reversed again to appear “right”. You can use a negative to make unlimited copies, that is, photographic prints. Many of the first photographs did not use transparent negatives, so they could not be copied. The material of the earliest printable negatives was thin, light-sensitised paper. Later, glass, and eventually different types of plastic, negatives were used. Negatives are not needed in a digital camera, but instead, the image is stored on a memory card as a positive.

## Non-silver printing processes / Ennobling processes

Photographic printing processes that were invented in the early days of photography, but that have since become rare, with images created using materials other than silver. Non-silver printing processes are used to produce, for example, **Bromoil**, **gum-bichromate** and **carbon prints**. Non-silver printing processes, also referred to as pigment processes or ennobling processes, are distinguished from silver-based processes in that they are not based on the light sensitivity of silver. The main inspiration behind the development of these historic printing processes was the need to

find more stable methods to create photographs than the silver-based processes, but there were also aesthetic reasons. These processes are often laborious and challenging, but they were a perfect match with the artistic objectives of the late-19<sup>th</sup> and early 20<sup>th</sup>-century Pictorialists.

### **Palladium/platinum print**

A non-silver photographic print that uses platinum, or the less expensive palladium, as the image material. Paper sensitised with iron and platinum, or palladium salts is exposed in daylight and in contact with a negative. A developer is not necessarily needed, but it is often used in order to achieve a starker image. The unexposed iron salts are removed using a fixer (hydrochloric acid). The process was favoured by the Pictorialists because of its tonal range and the soft prints it produces.

### **Positive**

The opposite of a negative: an image with a tonal range that matches that of the photographed subject. An ordinary photograph is a positive that has been printed from a negative. Transparencies are also positives.

### **Printing**

Creation of a photograph on photographic paper. The main steps in the printing process are paper exposure, developing, halting, fixing, and finally washing. A print can also be toned. Finally, the print is dried using a dryer or left to dry in a ventilated space.

### **Sabatier effect**

Pseudo-solarisation, see **solarisation**.

## **Salted paper process**

One of the earliest photographic processes, dating from the 1830s. Fibre-based paper that has been sensitised with a salt solution and silver nitrate can be used either as a negative or as printing paper. The print is exposed in daylight and in contact with a negative. The resulting image is a contact print. Salted paper is printing-out paper, which means that there is no need for a developer in the printing process. At the end, all the unexposed silver is removed from the paper using a fixing solution and the image is rinsed. The salted-paper negative, however, needs to be developed.

In the middle of the 19<sup>th</sup> century, the ability to produce copies was a definite advantage of the salted paper process, compared to earlier processes: one negative could be used to print many positive images.

## **Silver gelatin print**

Black-and-white photographs are usually gelatin silver prints. The print is exposed on photographic paper, which has silver salts mixed with gelatin in its light-sensitive emulsion. In development and fixing, the exposed silver salts are converted into metallic silver, and the unexposed silver is removed from the print using a fixer. Silver gelatin emulsions have been used in both printing-out and developing papers. Today, plastic paper is commonly used alongside the traditional fibre-based or baryta paper.

## **Solarisation**

A graphical stylistic device in photographic printing in which the tones of an image are reversed. Actual solarisation occurs when the film is overexposed up to a thousand times, and, as a result, the dark areas in an image begin to turn light. However, in most cases 'solarisation' refers to the Sabattier effect, or pseudo-solarisation, in which a print or negative is exposed to extra light while immersed in the developer. This may also happen if standard white light is accidentally used in the darkroom during development. If you

maximise the effect, the result is an image that only shows the contours of the photographed subjects. This requires lith film or film with high contrast, and several interim stages during which the tones of the image are reduced and made sharper.

## **Toning**

Bathing a print in a solution that changes its tone. Many toners (such as sulphide, selenium, and gold-based solutions) increase the longevity of the image, but they are also used as a stylistic device. Toning usually takes place at the end of the printing process. It is possible to use many toners for a single image at the same time.



Production: The Finnish Museum of Photography