



PICTO Benelux

<http://www.picto.info/>

OIL PRINTS AND BROMOIL

Oil prints, bromoil and mediobrome are processes that belong to a same family: all of them are based on the well known principle that oil is repelled by water. The oil print process was first described in 1855 by A. Poitevin, and put into practice by G.E.H. Rawlins in 1904. It was C. Welborne-Piper, following through with a theory developed by E.J. Wall, who made the bromoil process work in 1907. Mediobrome is a variant of bromoil, developed by the Belgian artist Léonard Misonne. He used this technique from 1935 till around 1943. In this process, the ink is deposited on a partially bleached matrix, the resulting image being a mix of silver print and ink. As the technique doesn't differ significantly from bromoil, it will not be discussed further here.

In the bromoil process, a silver image is bleached, and simultaneously the gelatin is tanned proportionally to the amount of silver contained. Finally the print is fixed, washed and dried. After this, the print is soaked in tepid water, which causes a swelling of the gelatin. After removal of the excess water, an oily ink can be deposited on the print with a brush or a brayer. The tanned gelatin (the parts that contained lots of silver - the shadows) didn't absorb water and will not repel the ink. Less silver in an area of the image means less tanning, more water absorption and more repelling of the oily ink. This way, an image can be formed, where silver content is progressively replaced by ink. Using several layers of ink of different stiffness, and working selectively on specific areas of the print, the artist has full control over the image that is built up progressively.

This was one the favorite processes of the pictorialists during the first half of the twentieth century. Today, there undoubtly is a revival of the process.

THE OIL PRINT

The oil process used a paper coated with a layer of gelatin sensitized with potassium dichromate. Those papers aren't manufactured any more, and the artist who wants to use this technique will have to make his own paper. Instead of potassium, ammonium can be used. Being more sensitive, the solution will be diluted more in that case: about 3% for the potassium dichromate solution, and 2% for ammonium. The paper becomes light-sensitive while drying, which has to be done in total darkness. This is a contact process, requiring a negative of the same size as the final print. Ultraviolet light is required, and the paper has to be exposed to the sun or special UV lamps. To "develop" the print, the paper is washed in increasingly warmer water, the temperature of which should never be allowed to exceed 38°C, however.

The result is a matrix, ready to be inked exactly in the same way as a bromoil. The inked print may be the final product, or can be used as a printing plate, to transfer the image on a different type of paper.

BROMOIL

The Paper

Originally, several special bromoil papers were manufactured. Those papers being more sensitive than those for the oil process, it became possible to expose them under the

enlarger. They were coated with a rather thick, unprotected layer of gelatin. None of them survived, and many current photographic papers are not really suited for bromoil, mainly because excessive supercoating might hamper the swelling of the gelatine. Recently, some papers specifically designed for bromoil, such as Bromoprint and Bergger Brom 240 did reappear. Another paper, the "Document Art" from Kentmere is particularly well suited for the process. All those papers are non-supercoated. Some other baryta papers, although being supercoated, can be used, especially in their matte finish.

The Print

It is recommended to avoid excessive contrast - deep black and pure whites. It often is advised to use about one grade softer paper, and to overexpose it by more or less one stop. That way, a maximum of detail is kept in the highlights as well as in the shadows, which compensates the loss of detail during the inking.

The Developer

The print has to be completely developed. Fast, surface-acting developers are less suited for this. The developer shouldn't have any tanning effect either. Preference should be given to a soft-working developer that doesn't contain any caustic soda.

Fixing

The fix should not contain any hardener, as this will hinder the swelling. The simplest and also most efficient formula is to take a solution of 100 gr. of thiosulfate (hyposulphite) crystals in one liter of water. For preserving purposes, small quantities of potassium bisulphite or boric acid might be added rather than sodium bisulphite, as the latter might contain salts hardening the gelatin.

Washing

The print has to be washed thoroughly, in running water (a print washer for baryta papers might be useful). The use of a washing aid, often referred to as hypo-clear, is advisable. The washing should take from three quarters to an hour.

Bleaching

This bath will eliminate the metallic silver formed under the action of light, and simultaneously will harden the gelatin proportionally to the quantity of silver being eliminated. The print is kept in this bath up to three times the time needed for the print to clear. If the print stays there for too long, the gelatin will get a uniform tanning, which will make the inking difficult. The print has now a pale yellow-green colour. After the bleach, the print has to be washed for 15 minutes, and fixed for 5 minutes in a 10% hypo solution. If this fixing was omitted, the image would reappear when exposed to light... Finally, the print is given a thorough wash (about 45 minutes) and completely dried.

The print is now ready for inking, and is called "matrix" from this point. A matrix can be kept for months before being inked.

Soaking and Swelling

Before one can start inking the matrix, it has to be immersed for some time in water of a given temperature. Time and temperature depend into a great extent on the types of paper and ink being used. The swelling is inversely proportional to the amount of light received and determines a slight image in relief. At that point, the matrix is taken out of the water and padded dry: under no circumstance, water droplets may stay on the surface of the paper.

Inking

Some greasy ink of a thickish consistency will be taken. A relatively soft ink, such as typographic ink, will produce deep blacks with more shades of gray, but will also require more swelling (a longer soak, at a higher temperature).

The matrix can be inked using a brush or a brayer. Important is to take a minimal amount of ink on them: the most common beginner's fault is to charge the brush with too much ink. It is preferable to build up the image gradually, with several subsequent, tiny layers of ink. The way the brush will be handled determines whether ink is deposited, taken off, or distributed differently on the paper.

As soon as the matrix starts to dry out, it has to be re-soaked, and the droplets dabbed away, before one can continue to ink. A moist brush, sponge or Q-tip can be used to clear the accent lights, in order to give more sparkle and life to the image.

It is not necessary to buy special, expensive, and difficult to find brushes. Other brushes, with natural or artificial hair can be used: one can experiment with shaving, make-up or pastry brushes. The type of brush and hair will lead to quite different effects: a harder brush will usually produce a coarser grain, for instance.

Finally, do not forget the essential three "P" in the bromoil learning process:
Practice, Patience, Perseverance...

BIBLIOGRAPHY

- *Der Bromöldruck - Dr. A. Mebes -- 1914*
- *Bromoil Printing and Bromoil Transfer, Dr. Emil Mayer - 1923*
- *Perfection in the Pigment Processes, Chris J. Symes, 1924*
- *Bromoil and Transfer, Leonard G. Gabriel - 1930*
- *La Technique Photographique, L.P. Clerc, 1947*
- *La Photographie à l'Huile, E. Trutat - Bibl. Photorevue, série bleue n°5*
- *The Keepers of Light, William Crawford, 1979*
- *History and Practice of Oil and Bromoil Printing, Luis Nadeau, 1985*
- *The art of Bromoil & Transfer, David Lewis, 1994*
- *Bromoil 101, Gene Laughter, 1999*

Jacques Kevers
2001