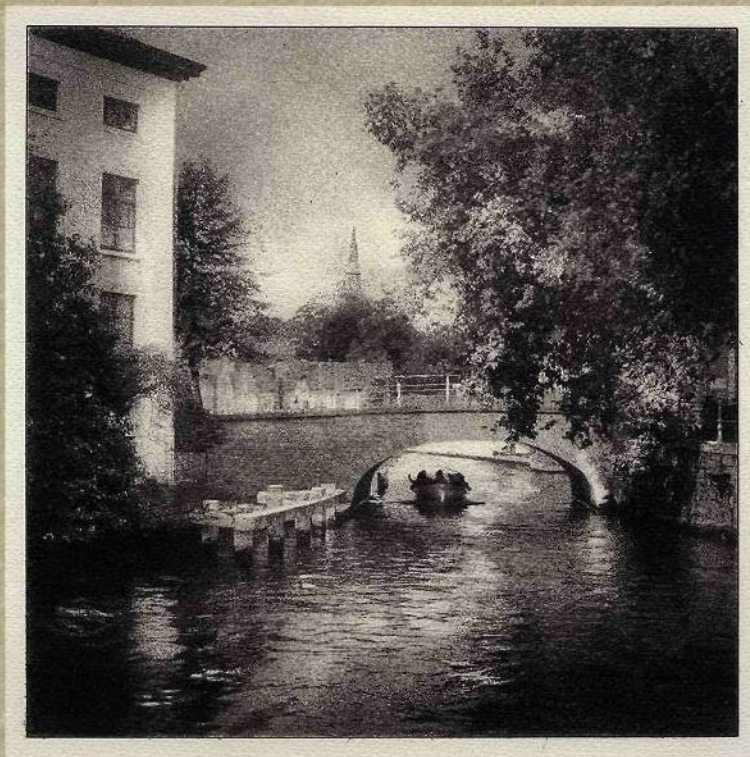




# Bromoil



**with soft inks**

**René Smets - Picto Benelux**

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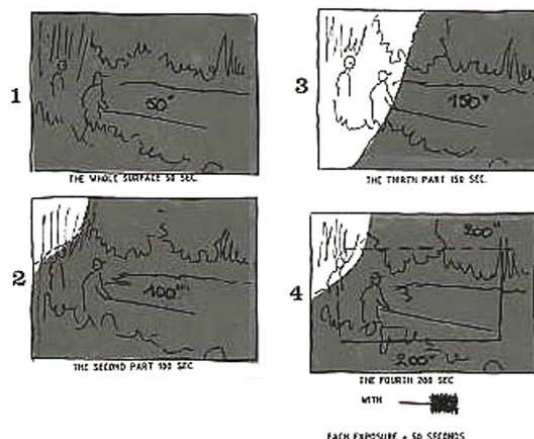


## BROMOIL RENE SMETS' METHOD

This text details step-by-step the process of making a bromoil print, following the procedure used by René Smets, an expert in this process – as well as in most other old photographic processes.

### I- The original print and its processing

The paper used is Kentmere Document Art. This is a non-supercoated paper. This paper is not available any more. Other papers, or other Doc-Art papers do not swell well and cause problems. It might be necessary to use the similar oilprinting process instead.



When printing, avoid excessive contrast, heavy blacks and pure whites. Use a soft working developer, a soft paper grade, and overexpose slightly ( $\frac{1}{2}$  - 1 stop).



Dodging and burning will often be necessary to obtain the adequate contrast and keep sufficient detail both in the highlights and the shadows.

This second print is the result after the burning & dodging: all the parts have now enough tone, and this can be considered as a correct print to make a good bromoil.

**Processing:** Develop completely, using a non-tanning developer and respecting the recommended processing times: in this case Rodinal 1+30, 2  $\frac{1}{2}$  minutes, 12 prints of 30x40cm processed in 2 liter of developer. Don't use an acid stop bath : just a paper rinse will be OK.

### II – Fixing, Rinsing, Drying

Use a non-acid and non-hardening fixer: the tanning of the gelatin would hinder its swelling when soaked (see below) and would make the inking more difficult. It is advised to mix your fixer from scratch, as follows:

Sodium thiosulphate .....500 gr.

Potassium metabisulphite.....24 gr

Water to make.....2 litres

Temperature: 20°C -- Time: 10 minutes.

Wash the prints thoroughly (baryta papers require much longer washing times than RC papers...) and hang to dry naturally (no hair dryer or other heating) and completely.

### III – Bleaching

1) Soak the print in cold water for a few minutes (it might be useful to mark the corners of the print with a pencil).

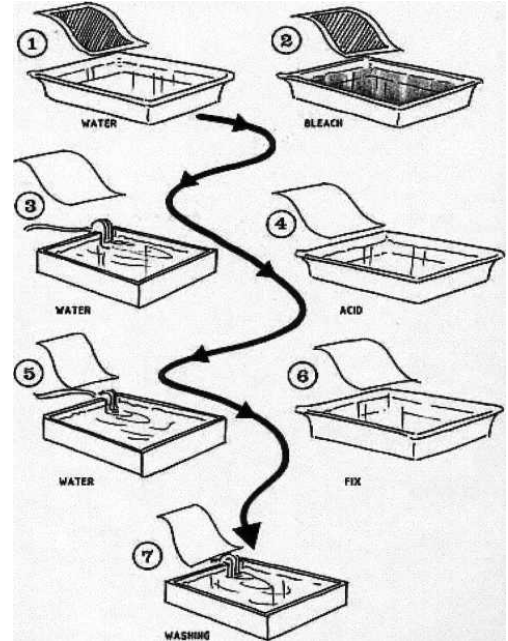
2) Bleach the print in the following bath:

#### STOCK SOLUTION:

Copper sulphate (CuSO <sub>4</sub> )	100 gram/ liter
Potassium bromide (KBr)	100 gram/ liter
Potassium bichromate (K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> )	100 gram/liter

#### WORK SOLUTION:

Copper sulphate (CuSO <sub>4</sub> )	1 liter
Potassium bromide (KBr)	200 ml
Potassium dichromate (K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> )	30 ml
distilled water till	2 liter



This mixture is trouble, clear it up with 10cc hydrochloric acid. Mix this solution thoroughly and wait to use for 24 hours. Distilled water preferred. In this bath the image disappears in +/- 2 minutes. The total immersion time should not be less than 8 minutes. This time can be extended up to 10-15 minutes. Temperature 20°C. The matrix is now yellow-green. Discard the working solution after one session (10-15 prints of 30x40 cm).

3) Wash in running water for 5 minutes. The overall yellow stain will disappear; only a faint yellow image remains

4) Put the matrix into the following acid bath for 1 minute:  
 water 2 liter  
 sulphuric acid 30 ml

#### **WARNING: Pour always the acid into the water, and not the contrary!**

The yellow color is changing; thanks to this bath, the final image will produce much softer tones.

5) Wash in cold water for 5 minutes

6) Put the matrix into a fixing bath, prepared as follows:

hypo	500 grams
potassium methabisulphite	24 grams
water to make	2 liter

**WARNING: the print has to be kept completely immersed.** Constant agitation.

The matrix becomes grey-blue. Temperature: 20°C. Fixing : 10 minutes

7) Wash the matrix thoroughly in running water for 30 minutes

**8) Dry the matrix thoroughly before inking. Protect dried matrixes from humidity (box with silicagel, for instance).**

### IV – Soaking

Before inking, the gelatin must be allowed to swell. Start soaking the print in cold water (room temperature). In case of "hard" water, it might be advisable to use demineralized water. After a few minutes (8), add progressively hot water, to keep the bath at 40°C for 2 further minutes. The print can be kept in this bath for a longer time, but this won't normally affect the swelling any more. Make sure

that the print stays completely immersed. These times are indicative, and are influenced by several factors. Some testing will be necessary. Take the print out of the water and mop. It is imperative that there doesn't remain any droplet on the paper.

## V – Inking

Ink: Lefranc & Bourgeois – «encre typographique». Not always easy to find, even in art shops. The Charbonnel “Taille Douce” ink often proposed doesn't give the same results. Some dry pigments, or magnesium carbonate can be added, if the ink has to be stiffened somewhat.

Put the matrix on a hard & flat surface. It might be easier to work if this surface is tilted at an angle, instead of horizontal.



It is advised to put a damp chamois leather underneath: this will absorb shocks and keep the humidity in the matrix, making it possible (when the weather isn't too dry and warm) to work about an hour without needing to re-soak the print. Cover the margins to preserve them from the ink.

Before inking, you must decide in which color you want to make the print. In this case let's use green-black. You might either mix different colours in your ink box, or apply successively several layers of different colours. In order to avoid that the ink dries out too fast, the ink box as well as the glass plate used charge the brush with ink should be covered tightly.

The ink is applied onto the paper in vertical strokes; then the same brush is moved horizontally without ink to spread evenly the strokes on the paper.

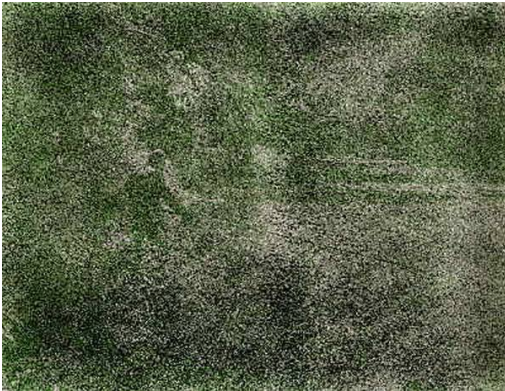
If you want to apply different layers of different colours, always begin with the light color (green, in this case), and continue hopping with the “hammer-brush”.. Make sure to apply very light and even layers. The most common fault is overinking. This is more or less how your matrix will look after inking.



Next, you see the print after the first hopping. This was done with the hammer brush shown in the “equipment” picture above.

You can use the hammer brush in different ways. Hold the handle lightly between thumb and first finger and try to lift the brush the moment it touches the paper. With a short tap you take the ink away. You can mix a few drops of linseed oil into the ink if you want to make it softer. When finished, start over again with a darker colour.





This is the second inking with a mix of blue, yellow and black + oil. To prevent early drying, a perfect closing cover is used over both the ink mixing box and the glass plate on which the brush charged with ink is worked to even the ink over the hair tips.

Here you see the image after the second hopping. As you can see there is now much more contrast in the print. By the next inking, you may spare out the white parts.



This is the third inking with a little more black into the mix. You can use a clean brush, bits of humid sponge, pencil erasers, etc... to clean up the white parts of the image



Here you can see the print at the moment it was decided that the image reached its final stage. In comparison with the previous print you see that the edges were inked once more to give more depth. On the previous print, the rock in the foreground (right) was too distracting; it now attracts less attention here due to the darkened edges. The paper still being wet, the final appearance cannot be exactly appreciated yet: contrast will increase, light parts will lighten further.

Getting to this stage took about 45 minutes, during which the ink really was literally forced into the gelatine through relatively vigorous hopping with the hammer brush. The glossy shine disappears partially, which helps building up soft tones. During this process, the paper as well as the thin inklayer on the glassplate dries gradually out. It therefore can be necessary to mix new ink and to soak the matrix again for about two minutes (temperature doesn't make a difference at this stage).

When the ink dries, it will stick on the brush hairs: when this "pasty" ink touches the matrix, it will take away the ink instead of transferring ink from the brush to the paper, and this will cause white spots... So USE A COVER!!!

The final print can be seen below. The paper is dry, but not the ink. At this stage, it is possible to change the tones by either removing the ink using a pencil eraser, or you can add some more ink



## VI – Final Remarks

The initial negative was a 24x36 TMax processed in Tmax developer . This was a negative with a great tonescale. From this a big positive was made on Gevarex film, a halftone film developed in G5c. To get the right contrast, a yellow gelatine filter was used under the enlarger, as with this Gevarex film the curve can be changed through blue/yellow filtering. The result can be checked with a densitometer. The big negative was contact printed, using burning & dodging techniques as described before. *This is not a requisite: the print can be made directly under the enlarger.*

The success of this method depends on a few principles:

- the use of a non-tanning developer, for instance Rodinal 1+30 (time: 2 ½ minutes, 12 prints of 30x40cm processed in 2 liter of developer)
- no acid stop bath : use just a paper rinse
- no acid/hardening fix: use plain hypo bath as described above, for 10 minutes
- keep paper always completely immersed
- Swelling: immerse the paper first in water at room temperature for about 8 minutes. Gradually increase the temperature to 40°C (don't pour hot water directly on the paper) and leave it for 2 additional minutes.

Kentmere Document Art is not available any more. Alternative solutions will have to be developed (oilprinting or liquid emulsion for instance).

Some websites with valuable info on bromoil (and other old processes):

<http://www.picto.info>

<http://www.photogramme.org/>

<http://www.bromoil.info>

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