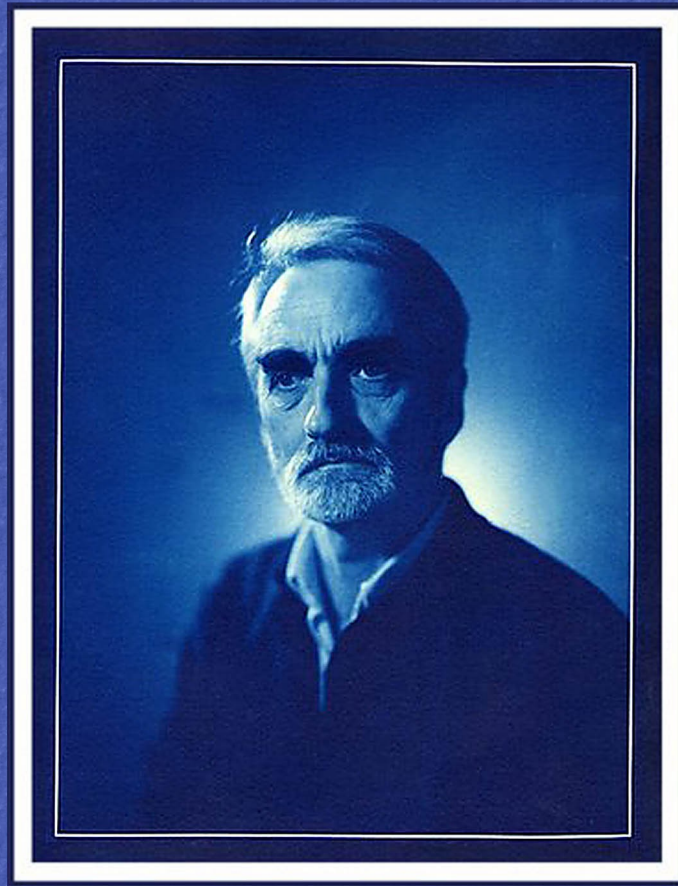




CYANOTYPES



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CYANOTYPE

General:

Cyanotype is a photographic printing process discovered in 1842 by Sir John Herschel, who was looking for a means of reproducing math formulas.

It is one of the cheapest ways to produce copies of images.

The process is based on the principle that ferric (iron III) salts of citrates or other organic materials are transformed into ferrous (iron II) salts when exposed to U.V. light.

The iron salts combine with potassium ferricyanide (when it is present in the coating) to form Prussian Blue.

It is a contact printing process, requiring a negative of the same size as the desired print. This negatives has to have sufficient contrast. The processing is done in water.

Practical execution:

The paper:

Any good watercolour paper with a smooth surface structure is adequate, such as Canson, Arches or Fabriano for instance, but the paper has to be sized. A description of my sizing procedure is given in my presentation of the carbon printing process.



The emulsion:

Prepare the two following stock solutions: they will keep for a long time in brown, well closed bottles

Solution A.

Ammonium iron(III) citrate	68 gr.
Oxalic acid	1,3gr.

Add distilled water to make 250 ml.

remark: there is brown and green amonium iron citrate; the green one is much more light-sensitive.

Solution B.

Potassium ferricyanide	23 gr.
Oxalic acid	1,3 gr.
Ammonium dichromate	0,5 gr.

Add distilled water to make 250 ml.

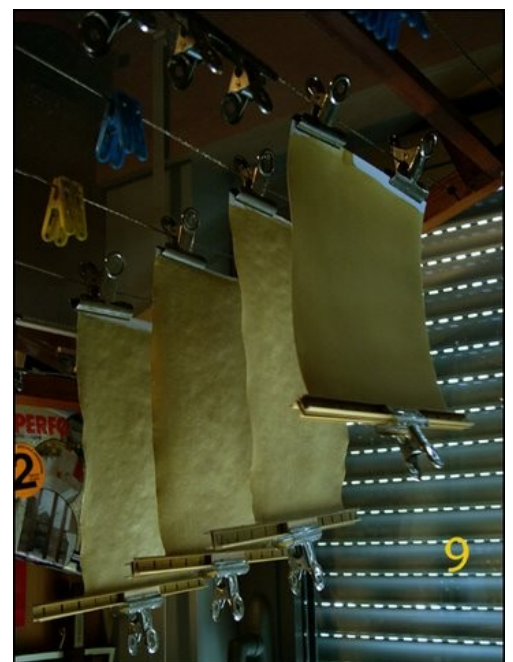
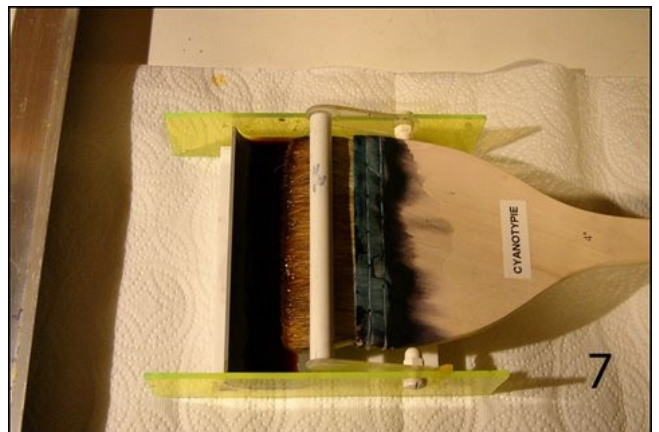




For use, mix one part of A with one of B. **see pict. 4.** A few drops of Agepon (wetting agent) in the mixture will facilitate an even

spreading of the product during the coating. Use a soft, wide brush without any metal part (Japanese brush also called “hake brush”)

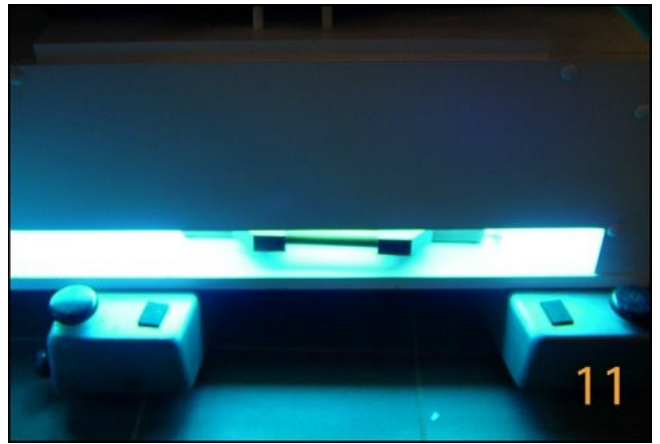
To guarantee even coating, I made a small box with a support for the brush; the supports also serves for squeezing the brush. **See pict. 5, 6 and 7.** Apply generously the solution; after a couple of minutes equalize the layer with some light strokes with a well-squeezed brush. **See pict. 6 and 8.**



Hang the paper to dry. **See pict. 9.**

In order to prevent the paper from curling, I made super-wide paper clamps. Let the papers dry in the dark.

The exposure:



Put the large negative on a part of the paper that was coated with the emulsion, and a glass plate on top of it. You can also use a printing frame. **See pict. 10.**

Expose under U.V. light until all parts of the negative become distinctly visible: overexpose rather than underexpose, as the image will partially fade away during the rinse **See pict. 11.**

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Processing:



After exposure, the print looks dark and dirty.

See pics 12 and 14

After exposure, put the print in flowing water until the yellow tint is completely gone, and no further blue colour is leaking.

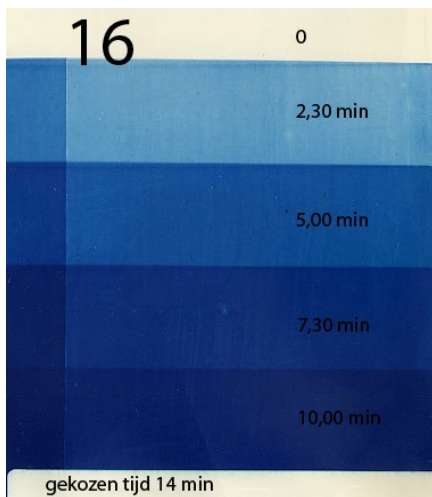
See pict 13.





The blue colour will darken significantly if after rinsing, the print is put for a couple of minutes in a solution made of 20ml hydrogen peroxide (3%) and 200 ml of water. **See pict. 15.** Currently, big contact negatives are usually made digitally. There are quite a few things to consider in this respect and a specific description will be written later on. **See pict. 14a.**

Determining the correct exposure:



Make regular step exposures on a cyanotype paper, for instance 0-2,30min-5 min-7,30min-10 min, with one part receiving the total of all steps, in order to determine the maximum density of the paper. **See pict 16.** In my case, this is reached at 14 min. The correct exposure is the one nearing this maximum density. With this time at hand, further fine-tuning is possible, using a step tablet such as the ones from Agfa or Stouffer **See pics 17 and 18.** This can also be done with various paper types, in order to find out their specificities (**Pict. 17** shows Arches Platine and acrylic paper. **Pict 18** gives the results on Fabriano 5 and Agfa fixed-out photo paper. **Pict. 19** shows the difference between sized and unsized paper.

