Classical Cyanotype

The B&S Formula and Instructions Other Formulas Toning Cyanotypes Bleaching Cyanotypes

The cyanotype or blue print is one of photography's oldest printing methods. Sir John Herschel was making cyanotypes as early as 1841. The cyanotype was a very popular process during the late 19th and early 20th Centuries. Bostick and I have an anonymous photo album from about 1905 that has a few cyanotypes glued in. These were just family pictures, but one of the cyans was of a group of picnicing with a very early automobile in the background. The young women were in full Gibson Girl regalia. The print is in pristine condition. The paltinums in the album are still pristine, but the silver prints are fading badly.

There are many variations in the formula that have been published over the years. The one we use is:

Solution A:

Ferric Ammonium Citrate 27.2 gm Oxalic Acid .5 Water to make 100 ml

Solution B:

Potassium Ferricyanide 9.2 gm Oxalic Acid .5 gm Ammonium Dichromate 0.2 gm Water to make 100 ml

The cyanotype is an elegant but simple process.

Coating

Use equal parts of solutions "A" and "B" mix in a small cup or shot glass. I like to use the small throwaway taco or hot sauce cups that you can get at restaurant supply places. An 8x10 inch print will use about 1 dropper shoot of each solution. A dropper shoot is obtained by squeezing the dropper bulb firmly and sucking up as much as it will of the solution and then squirting that into the cup. This is surprisingly accurate measurement and is precise enough for cyanotypes.

Swish the material around for a second or two to mix it. Pour it onto the paper and spread with a brush. Many printers prefer the Japanese Hake brushes obtainable at any fine art supply store. If you don't have a Hake brush, just about any brush will do if it is the right size and shape for "painting" the area of your paper.

Dry with a hairdryer, in front of a fan or just let it air dry naturally.

Printing

Place in a print frame or sandwich between two pieces of plate glass somewhat larger than the print. Expose in sunlight or under a UV printing light system. Expose until the high values are a little too dark and the shadows have begun to reverse.

Washing and developing

Wash for 5 minutes in running water. The print will still be weak and not be fully blue. As it dries it will oxidize and turn blue. If you wish to see the print as it will look when fully oxidized, place in a bath of 20 ml of household hydrogen peroxide 3% to 200 ml of water for a few seconds.

Drying

Dry on screens or photo archival blotters. Enjoy

Dick Sullivan

Other variations on the cyanotype formula

It has been my experience that the proportions of the two cyanotype chemicals in the solution affect the richnesss of the blue (and supposedly the exposure time). I use this formula which was given to me by Patricia Dreher in San Francisco:

Part A 25 g. Ferric Ammonium Citrate (4 oz. H2O)

Part B 17.5 g. Potassium Ferricyanide (4 oz. H2O)

It gives me richer blues than the formula in Wm. Crawford's book. Kent Rush, University of Texas, San Antonio

From Bob Schramm

The standard formula for cyanotype is:

Solution A: Water 100 cc Ferric Ammonium Citrate 20 gm.

Solution B: Water 100 cc Potassium Ferricyanide 8 gm.

Before use, combine equal parts of A and B.

I use a better formula which I believe gives whiter whites and no bleeding. It follows:

Solution A: Ferric Ammonium Citrate 68 gm. Oxalic Acid 1.3 gm. Water to make 250 cc.

Solution B: Potassium Ferricyanide 23 gm. Oxalic Acid 1.3 gm Ammonium Dichromate 0.5 gm. Water to make 250 cc.

Mix equal parts of A and B just before use.

Toning Cyanotypes etc. Rapid Sensitiser

Ferric Ammonium Citrate (Green) 110 grains 7.1 gm Uranium Nitrate * 30 grains 2.37 gm Water 1 oz 28.4 ml

Print to a faint image and develope in 5% potassiun ferricyanide

* This should make the print glow in the dark, and with the end of the cold war it should also be quite plentiful!!

Greenish Black Toner

Borax 30 grains 1.95 gm Water 1 oz 28.4 ml

Acidify with sulphuric acid until soln just reddens litmus, then add 10% ammonia until colour just changes.

Add:-Catechu ?* 4 grains 0.26 gm

Shake well and filter. Tone the washed print in this soln.

Wot's this? I've checked in various upto date chemistry books (1896).No joy!

Brown to Black Tones

Place dry print in Ammonia soln. 6 minims per oz (approx 6.3 ml per 500ml).

When bleached rinse and place print in Tannic acid soln 9 grains per oz. (0.58 gm per 28.4 ml)

Black tones (Lagranges Process).

Bleach in Silver Nitrate 9 grains per oz (0.58 gm per 28.4 ml)

Wash well, fume with Ammonia and expose to light. then develope in Ferrous Oxalate*.

No details given for this, but perhaps:-

1 part ferrous sulphate 25% added to three parts of neutral Potassium Oxalate 25%, with constant stirring might be worth trying.

Lilac Tones (Affected by light and damp!)

Soak print in in a 35% soln of Potassium Sulphocyanide(Potassium Thiocyanate?), containing a little Lead Acetate.

That's All Folks! I hope that the formulae will be of interest. Even if they don't work they do go to show what fun our ancestors had!

Alex Nanson, Gloucester UK

Bleaching Cyanotypes

I've given up on cyanotype bleach (borax, oxalates, something else I forget at the moment) because they're too slow and not thorough enough. Take some chlorox, dilute it about 1 to 5 if you're feeling chicken, and dab gently with a tiny twist of cotton on a sharpened stick. (Don't use a brush or you'll shortly have only a stub.) Yes, it weakens the paper, but the key word is "gently," and action is quick. My understanding of the chemistry is that you can rinse or not afterwards, as the bleach will soon stabilize in air, tho perhaps someone will correct me on that....

Judy Seigal

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http://www.bostick-sullivan.com/articles/classiccyano.html