

TONING CYANOTYPES with TEA

There are three types of toning that are generally used with cyanotypes

- Tea Toning tannic acid reacting with the iron salts
- Redevelopment Toning replacing the color with Tea or Sepia
- Bleaching removing color (also part of redevelopment toning)

Changes can be very subtle to very extreme. It is possible to render cyanotypes totally brown, but why would one want to lose the blue color that is the point of cyanotype process in the first place. Ah, but chocolate cyanotypes can be beautiful.

TEA TONING

Where Tea toning with silver prints is a dyeing effect, the tannic acid in tea actually has a chemical reaction with the iron in the cyanotype to cause a change in color.

Immerse the print in a strong tea, preferably an inexpensive black tea. The tannic acid in the tea interacts with the iron in the cyanotype emulsion.

brew some tea _____ pour 1 quart of boiling water over 4 tea bags

let it steep at least 5 minutes

use black tea, such as standard Orange Pekoe or Oolong Black Tea

immerse the print _____ in the tea

the initial effect will be to reduce the intensity of the blue color
to a navy blue

further toning will eventually turn the blue into a blue-black

the paper will also become stained by the tea

the length of the toning and the brand of paper

determine the color, ranging from light beige to a strong brown

REDEVELOPMENT TONING with TEA

This involves 'bleaching' the print first, then 're-developing' in tea. This is the same basic process as bleaching and sepia toning silver prints. The finished print consists of ferric tannate. This is a permanent pigment and is very stable.

mix _____ any of these bleaching solutions

ammonia (250 ml per quart of water) *noxious and unpleasant*

borax (70g per quart of water)

Dektol print developer (used straight)

rinse _____ a dry / aged print for 5 minutes

immerse the print _____ in the 'bleach'

until the desired amount of color has been removed

redevelop in tea _____ or other chemical mixture

black tea 4 tea bags in 1 quart of water

let it steep at least 5 minutes

a new color will be imparted to the cyanotype emulsion,

a brown-black color rather than the original Prussian Blue

tone further _____ with other chemicals (optional)

rinse briefly in sodium carbonate (3/4 cup in 1 quart of water)

produces a red-brown color

re-immerses in sodium carbonate (a pinch into 1 quart of water)

for 1 minute

then back into the tea for 5 minutes

produces a licorice blue / black / red

TONING CYANOTYPES with TEA, cont'd.

REVERSE REDEVELOPING with TEA

This involves 'toning' the print with tea first, then 'bleaching' the print. This might sound illogical, but a different chemical process takes place and produces different results.

mix _____ any of these bleaching solutions
 ammonia (250 ml per quart of water) *noxious and unpleasant*
 borax (70g per quart of water)
 print developer (used straight)

rinse _____ a dry / aged print for 5 minutes

tone in tea _____ or other chemical mixture
 black tea 4 tea bags in 1 quart of water
 let it steep at least 5 minutes
 a new color will be imparted to the cyanotype emulsion,
 a brown-back color rather than the original Prussian Blue
 with reddish highlights

immerse the print _____ in the 'bleach'
 until the desired amount of color has been removed

REDEVELOPMENT TONING with SEPIA

The standard Sepia Toning process used for silver prints can be used for cyanotypes. Follow the usual directions. This can be done in the Darkroom. Standard photo chemicals can produce unwanted effects by contamination, so be very careful and do not mix your prints with any others. Notify other students what you are doing so they do not disturb your prints.

BLEACHING ONLY

Sometimes, just bleaching a print can produce a good result. This is a common practice with silver prints. It works better if the print is at least one stop darker than normal.

mix _____ TSP cleaning solution (1 TBSP per quart of HOT water)

immerse the print _____ for a few seconds to several minutes
 produces a yellow/blue to a very yellow print

mix _____ hydrogen peroxide (1 – 2 TBSP to 1 quart of water)

immerse the print _____ for 1 minute

rinse _____ for 15 minutes

mix _____ sodium carbonate (a pinch into 1 quart of water)

immerse the print _____ for a few seconds to 30 seconds

rinse _____ for 15 minutes
 produces a subtle yellow/blue split

Direct Toning with Tea

When using tea as a direct toner with Cyanotypes, initially the rather vivid blue that these prints have is either shifted to a cooler hue that many may find more acceptable. This color shift is the result of a reaction between the tannic acid in tea and the iron in the Cyanotype and may therefore reasonably be described as toning.

Continued toning may ultimately take the blue through navy blue and on to a blue-black color. While the image is toned by the tea, the paper eventually becomes stained by it. This may produce a very attractive duotone – a two-color result of either greeny blue on beige or navy brown on brown.

The pH of the water used to make the tea may have an effect on the color blue achieved. I found also that the various papers used with Cyanotypes vary considerably in how quickly they take on the tea stain. Some are little affected by the time others show a marked color.

Pyro Tea

An alternative technique is to mix a trace of pyrogallic acid into a solution of 70g of tannic acid in 1 liter of water – or strong tea – as a direct toner. An immersed Cyanotype changes to a lilac color. It may then be placed in a caustic potash (15g per liter) until it turns purple-brown.

Redevelopment Toning with Tea

Another technique for tea toning Cyanotypes is to use the tea as an indirect toner by first bleaching the image and then redeveloping it.

A number of different chemicals may be used for either of these stages in order to achieve various colors. The following simple technique involves bleaching the image in a solution of ammonia solution (250 cc per liter of water) which is noxious and unpleasant, or in borax (70g per liter of water). Other chemicals can be used for this so-called bleaching stage too and the simplest one is a strong print developer such as Dektol (Polymax), but other developers work as well.

The redevelopment is carried out in tannic acid. This comes from such natural things as grape skins (wine), tea, and cat pee, or it can be made by dissolving 30g of tannic acid in 1 liter of water. A strong tea can work well.

The image is restored, but not to its original blue, but to a brown-black color, as the tannic acid in the tea reacts with the **ferric ferricyanide** (iron) in the Cyanotype print. This final image is made of **ferric tannate** and is permanent and extremely stable.

The final hues may be further varied by using different teas, with or without the addition of an alkali.

- from "The Photographer's Toning Book" by Tim Rudman