CYANOTYPE

by Angela Chalmers
INTRODUCTION

Hi, I’m Angela Chalmers, I’m an artist, surface designer, writer and educator living on the North East coast of England. I have been working with the cyanotype process for over 17 years and have run workshops in my own studio and overseas in France and Sweden. I love to collaborate; my cyanotypes have been licensed on various products and they have been exhibited widely.

I’m incredibly fortunate to do what I do. Cyanotype printing is truly magical.

I decided to make this free guide to encourage you to have a go for yourself. It includes simple steps and my top tips for creating successful cyanotypes.

I share my own techniques and reveal how working with this historic photographic process can generate really eye-catching images.

Join me on my quest to create more beauty in the world!

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MY TECHNIQUES

The aesthetics of a photogram are somewhat mysterious, which is what grabbed my attention when I first discovered camera-less photography by Surrealist artist Man Ray.

Almost any object that blocks the light can be used to cast shadows on a support. I have worked with feathers and birdcages, wedding dresses, christening gowns and veils, and even people. There are infinite options to make unique photographic prints. Whatever the subject matter, they are always quite intriguing and in some way ethereal.

I always tell participants of my workshops that semi-transparent objects create the best effects. A solid object will block the light leaving a white silhouette, but translucent items allow the light to pass through and around, which allows for various tones of blue.

‘I prefer to choose flowers that are delicate, such as poppies, sweet pea and dandelion seed heads. The soft translucency of their petals and form, create beautiful tones’
Observe Nature

I love to walk into the landscape and work directly with nature using sunshine as my light source. A bright sunny day will provide the best results, however even on a cloudy day there is enough UV to make a print. The best time to expose cyanotypes outside in the UK, is from March to September; the hours each side of mid-day work the best.

When travelling, I often carry a basic kit to process my prints outdoors. Items include pre-coated paper in a light-proof black bag, a small wash tray and a bottle of water. The experience of working on location becomes one of a physical engagement with the environment. You could call it multisensory; an activity of wandering, seeing, smelling, feeling, gathering and printing.
‘make a mental note about the way certain flowers and plants sit harmoniously together’
Look closely at plants in their natural environment; it’s a useful practice that will enhance your compositions. Whilst gathering plants I make a mental note about the way certain flowers and grasses sit harmoniously together. A field, or hedgerow full of bracken and hogweed looks chaotic and wild; an elegantly designed parkland is much more orderly.

When I am back in the studio with a collection of plant life, I create my own landscapes through considered composition. I might remove flower heads from their stalks to allow them to be placed flat on the paper.

The Kiss of Peace, Triptych, Cyanotype on paper, each 76cm x 56cm
‘the biggest joy of working with alternative process is
the impressive results you can achieve when you
experiment and break rules’

**Wet cyanotype using citric acid**

The dried un-exposed paper was sprayed with citric acid before exposure. The flowers were put under glass and left in the direct sunshine for 3 hours.
Controlled UV

The summer months are best for shorter exposures and stronger blues. However, working outside under the rays of the sun leaves very little time to fiddle with your composition. You don’t have time to be indecisive when your paper is fast exposing. So, if you require a precise composition, controlled lighting is essential. UV lamps offer all-year round printing; exposure units and even facial tanning lamps can be used.

I hired a qualified electrician to make an efficient yet straightforward UV lighting system that plugs into a wall socket. The lamp is attached to the ceiling on a stand that can be adjusted to different heights to accommodate a range of paper sizes. I use a 300w Osram bulb, which is a popular light source for amphibian cages. Working with controlled UV allows you the time to organise a composition under safe light.

There are no boundaries when making photograms. In fact it is such a liberating way to make images that even if your first attempts are not masterpieces the creative experience is so much fun! My favourite read is Shadow Catchers: Camera-less Photography by Martin Barnes. It’s full of experimental techniques by contemporary artists who extend on the creative possibilities of making a photograph image without the use of a camera. Cyanotypes can be printed on paper, textiles, ceramics, wood and even glass.
1. My cyanotype formula is - **Solution A**: 25 gm dissolved in 100ml water. **Solution B**: 10 gm and 100ml water. The two solutions are then blended together in equal parts to produce **Solution C**. Alternatively you can buy a ready made mixture.

2. Coat your paper in low-level tungsten light using a sponge or brush. My favourite tools are Japanese Hake brushes. They soak up the fluid and coat beautifully.

3. Allow the papers to dry in a dark place, such as a cupboard or drawer. Keep in mind that cyanotypes are only affected by UV light.

4. Place objects on the paper and if necessary hold them in place using glass. Remember that the parts that cover the surface and are not exposed to light will remain white.

5. Consider your composition when arranging objects. To achieve good results, you may decide to repeat a certain layout, or embrace the element of chance.

6. Considering making a simple test strip for exposure times. A properly exposed print will turn a dark blue/green, whilst the shadows look slightly solarized.
7 It doesn’t need to be a hot sunny day to make cyanotypes. Even on a cloudy day there will be enough UV for exposure, although the time will be slower. Alternatively use a UV lamp.

8 Once the print has been exposed, process your print by rinsing in cold water for at least 5 minutes and until the water runs clear. This washing removes any unexposed chemical. Remember to use safety equipment, especially when mixing chemicals. Gloves should be worn during coating and washing.

9 Your final print can now be hung to dry. Once dry they may be prone to wrinkling due to a large amount washing. I use heavy boards and weights to flatten them.
1. **Change the Background**

   I often move objects during a long exposure. I arrange my composition knowing I will remove a flower head or perhaps add another leaf. This helps to add a sense of depth and create various tones to the final print. This can be done at anytime during exposure.

2. **Be Experimental**

   To create extra tones and textures I will spray the dried un-exposed paper with water or citric acid before I arrange the plants. The cyanotype solution becomes diluted and dries quickly in the sun leaving interesting marks. If you are not happy with your final print, try coating you paper for a second time and double expose.

3. **Be Creative**

   The way you coat the paper is subjective. Painterly brush strokes are a big part of my work. I occasionally coat the entire sheet of paper leaving no border or use card to create a mask; this works well if you prefer clean straight edges.
4 Create more Depth
It’s not always necessary to flatten plants under glass. Delicate flowers, such as dandelion seed heads work well when they simply sit on the paper. This technique allows for light to pass through and around the 3D object creating blurry edges and encourages soft shadows to form.

5 Enhance the Blues
Prints will not reach their full density until they are dry (usually overnight). This is because it takes time for the sensitiser to oxidise in the air. To achieve an immediate oxidation rinse the print for about 1 minute in a bath of dilute Hydrogen Peroxide, and while not necessary, it causes the blue to instantly achieve intensity.

6 Explore Materials
Experiment by printing on different papers, such as old book pages, maps, coloured paper, patterned wallpapers, or double expose unsuccessful prints. Consider using fabric with natural fibres. I’ve had beautiful results using cotton muslin and silk; the possibilities are endless.
Tea Toning

It is possible to change the colour of cyanotypes by toning them later. The cyanotype must be left to oxidise; I leave mine overnight. A short immersion in tannic acid, for example a strong inexpensive tea will transform the Prussian blue to a brownish black.
Chemicals

The cyanotype solution is made from two chemicals: Ferric ammonium citrate (green) and Potassium ferricyanide. These solutions are generally labelled A and B. Mix equal measures of A + B to make the working solution C.
Safety equipment
Cyanotype chemicals must be handled with care. The most hazardous practice is mixing raw chemicals to make stock solution. For basic protection you need protective glasses, mask and gloves. Wear old clothes.
Coating

Handcrafted coating using a brush allows you to be free and give painterly edges, whilst a sponge gives a harder edge to the emulsion. Be careful not to use a brush with a metal ferrule, as this may react with the cyanotype chemistry and corrode.
Exposure

Working outdoors you will need a board, glass and clips. I use plywood or stiff cardboard to clip the glass in position whilst making exposures. This is particularly useful in windy conditions to hold everything in place.
Light source

Bright summer sunshine works beautifully. A good south facing window ledge can work surprisingly well. For total control an ultra violet lamp can be used effectively. I use an OSRAM Ultra-Vitalux 300W bulb.
I hope this guide will inspire you to explore cyanotype printing. Please feel free to share the following link with your fellow creatives.

https://www.angelachalmers.com/free-guide/

Thank you so much for being here!

Have fun exploring and practicing!

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