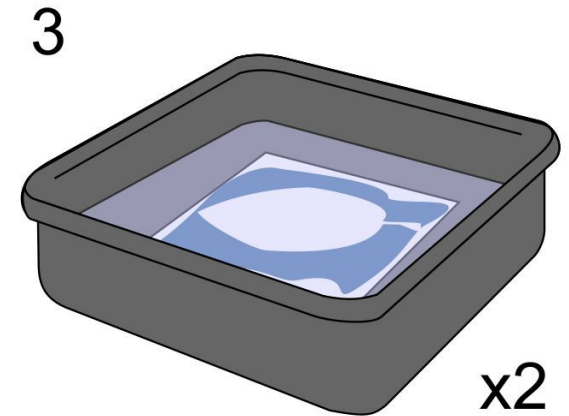
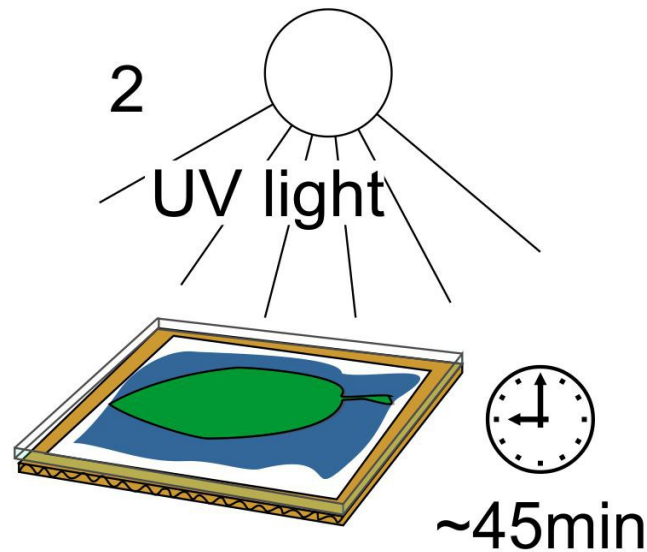
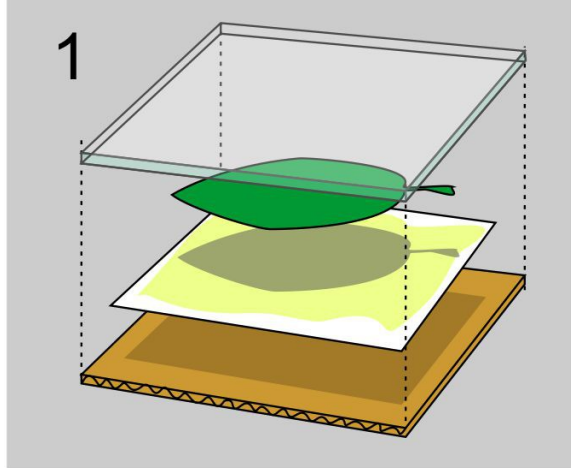


# Cyanotype evening

We're doing the practical first to make the most of the remaining UV light

DARKENED ROOM



Heavier/larger objects won't need the glass (perspex).

Clips can be useful if using perspex.

An exposure that would take 5-10 minutes in the middle of the day takes 45 minutes or more in the evening.

Wash the paper twice in water (agitated) to "fix" the print. Unreacted sensitizer (yellow/green) dissolves in water.

# What is Cyanotype?

Photosensitive solution that produces a monochromatic blue image (Prussian blue) when exposed to ultraviolet / near ultraviolet light (UVA). The reaction is stopped by washing with water.

It is inexpensive, simple and fun. The chemicals involved (in the traditional method) are not toxic and supplementary chemicals are often standard kitchen store cupboard items. No dark room or special equipment is needed.

The cyanotype process was discovered in 1842 by Sir John Herschel.

He was an astronomer who wanted a method to reproduce his scientific notes.





Anna Atkins, a friend of the Herschel family, used cyanotype to make photograms of botanical forms from 1843.

These were published as illustrations in botanical books.

Atkins credited with first artistic use.

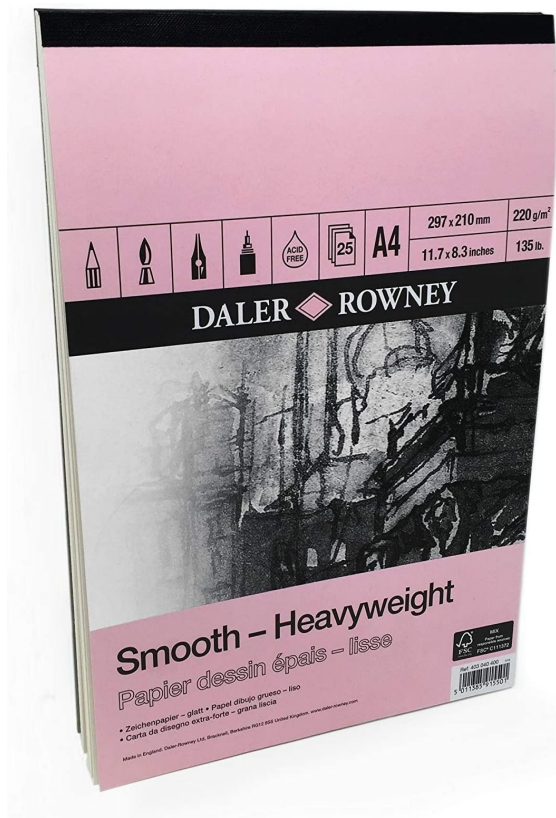


# Paper for Cyanotype

- Paper should be robust enough to survive being washed (and not wrinkle too much)
- Expensive 300gsm cotton-based watercolour paper is often used.
- I have found that a heavy weight cartridge paper works well, specifically:

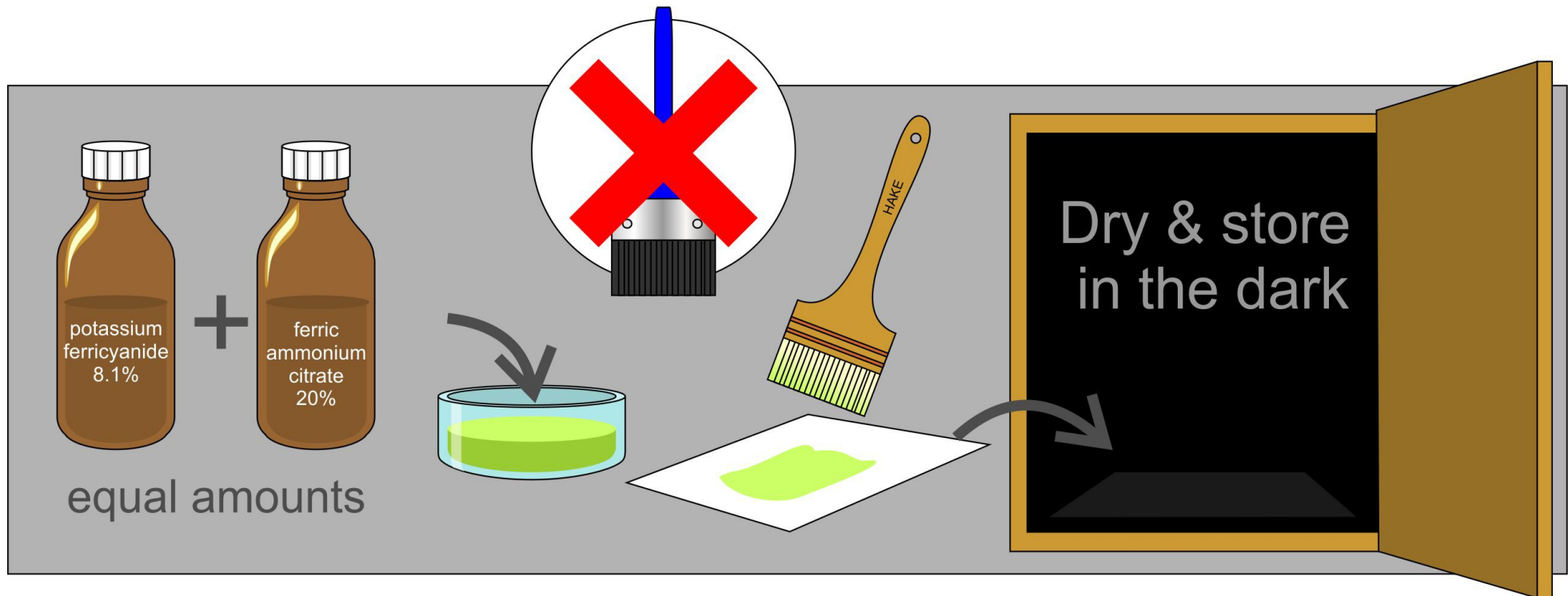
## Daler Rowney Smooth Heavyweight Drawing Paper (200gsm)

- You can also use cloth and other absorbent surfaces



# In a darkened room...\*

- Mix **potassium ferricyanide** & **ferric ammonium citrate** → sensitizer
- Coat paper using a sponge or a brush without a steel ferrule – the iron will react with the solution

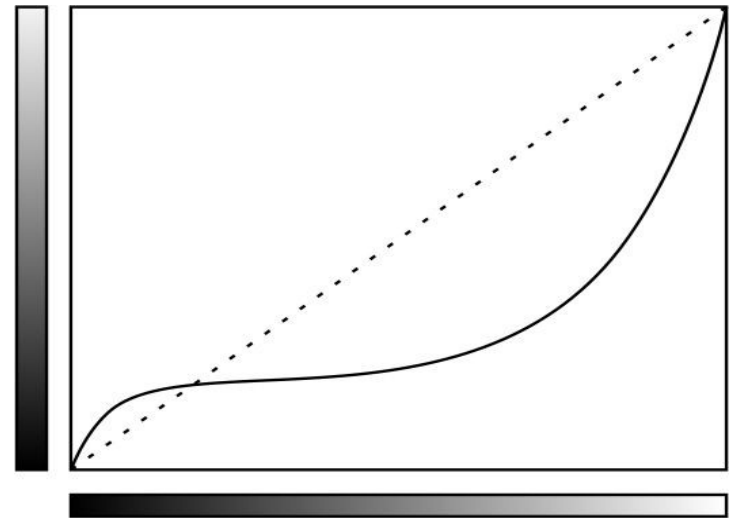


\*It doesn't have to be perfectly dark. Cyanotype isn't that sensitive.

# Cyanotype Photographs

Need to create a digital negative

- Destaturate your digital photograph
- Invert the colours
- Adjust the tone curve
  - Make it much darker
  - Steeper curve at either end to retain detail in shadows and highlights





# Cyanotype Photographs

- Flip the image left to right (mirror) so that the printed side can be next to the paper.
- Print on printable transparency or on paper (longer exposure will be required with paper)



# Prussian Blue

The blue in cyanotypes is the pigment known as Prussian blue (ferric ferrocyanide).

It is not poisonous.

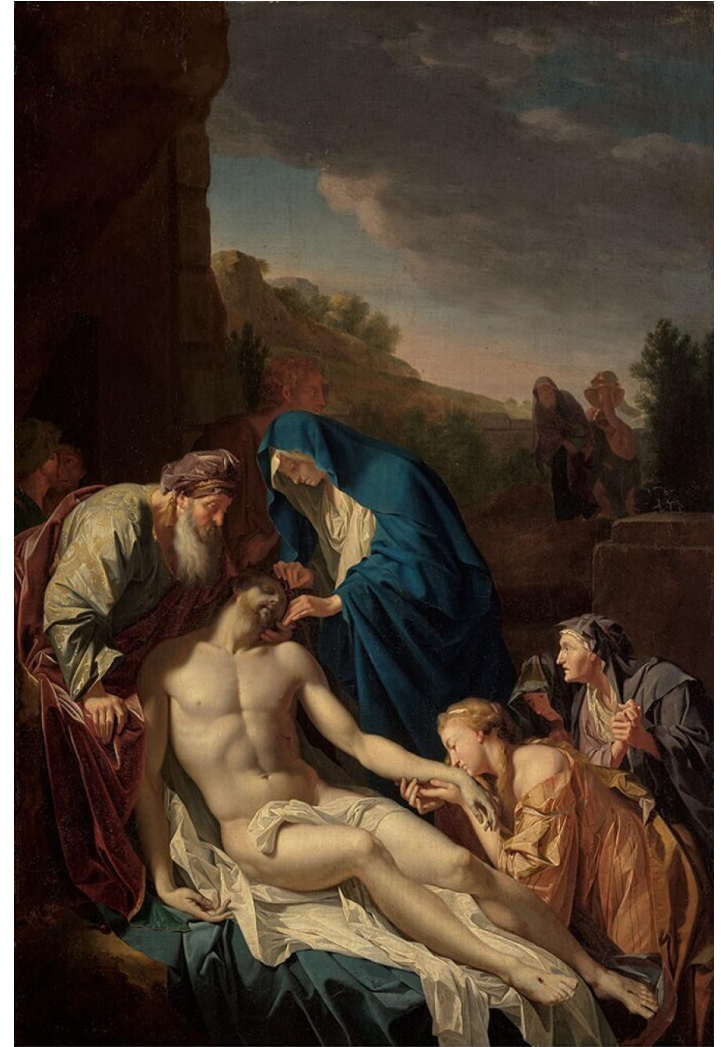
Prussian Blue may be the first synthetic pigment, and was reputedly discovered by accident.



# Prussian Blue

Artists have been using Prussian blue since 1709.

It is still available in oil and watercolour, but very rarely in acrylic – because acrylic medium is mildly alkaline, and PB is sensitive to alkalis (it fades).



The entombment of Christ  
Pieter van der Werff, 1709

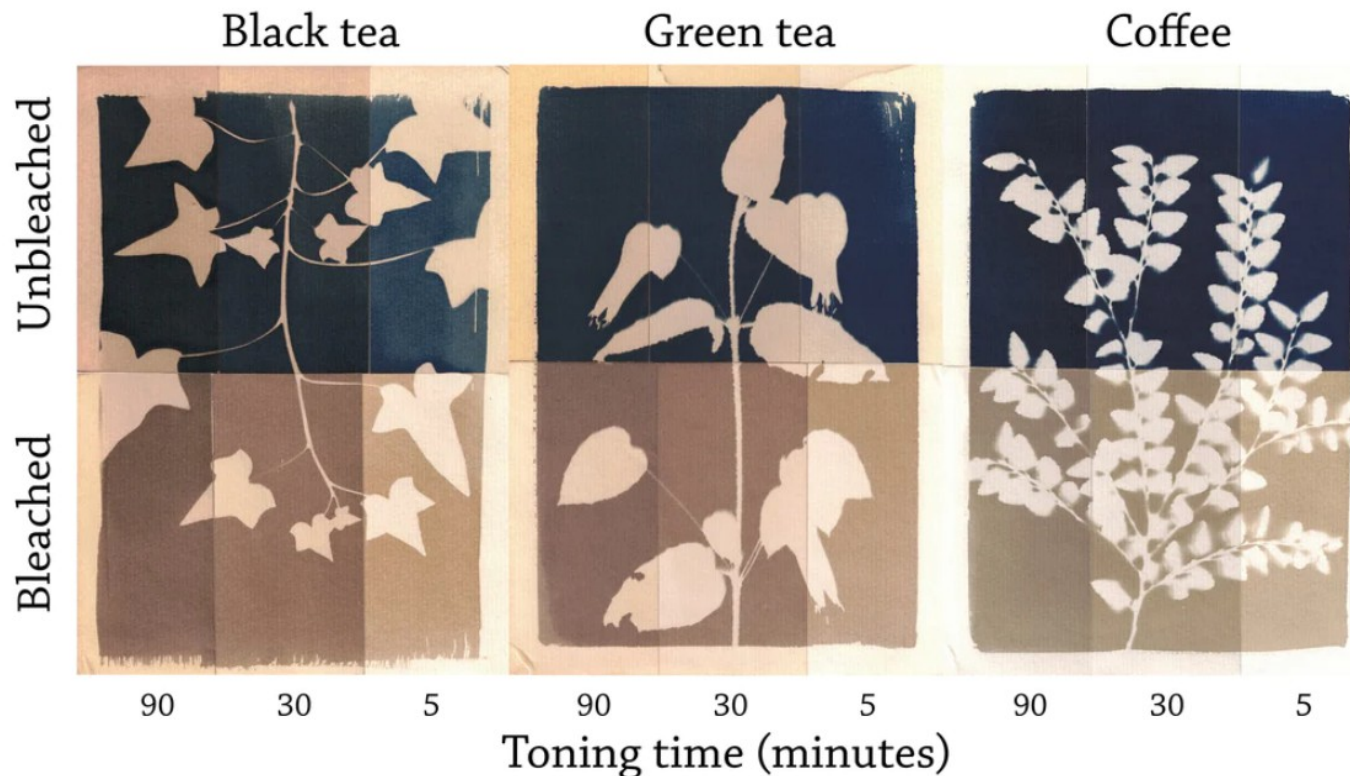
# Prussian Blue

- Can fade in sunlight, but can be “revived” by putting it in the dark
- More lightfast than many contemporary blues and cheaper than ultramarine (lapis lazuli)
- Quirky colour mixing
- Used to excellent effect in C19th Japanese woodblock (layers)
- Phthalocyanine (phthalo blue) is a popular modern near-equivalent. Clearer, more saturated and more predictable.



# Unblue Cyanotype

Prints can be bleached (which makes them pale yellow) and/or toned, often with beverages such as tea, coffee or wine. These toners usually tint the whole image.



# Acids and Alkalis

Cyanotype doesn't like alkalis. They react with the iron in the pigment, reducing the blueness.

Paper doesn't like acids. Even mild acids will react with the organic content and break up the fibres, eventually making the paper brittle.

Paper manufacturers often guard against this by adding an alkaline “buffer” such as calcium carbonate.

# Cyanotype and pH (acidity)

The most common solution to this conundrum is to get rid of the alkali. This involves the use of a mild acid, usually citric acid or vinegar.

This can be added

- to the paper with before coating. This reduces the required exposure time, but increases the preparation time because it has to dry twice.
- to the print during development. This improves the contrast of the print.