Van Dyke Brown PRINTING

Speaker Notes by

Tim Anderson: June 2025

The Van Dyke Brown (VDB) printing process was discovered by Sir John Hershel in 1842 (shortly after publishing the cyanotype process). Hershel titled the process ‘argentotype’ which is considered to be the basis for VDB and Kallitypes. In 1889, Arndt and Troos refined the formulation to what is in current use.

The Van Dyke Brown Print

VDB is a contact printing process. The print is the same size as the negative. The image will be made up of various rich shades of brown and white (the paper base).

The Paper

I have had good success using Canson XL mixed media paper, Aqua Bee Mixed Media and Arches Hot Pressed Watercolor paper.

The Emulsion

The emulsion consists of three separate parts (Part A, Part B and Part C). Once combined in a brown bottle, it can last a fairly long time. I've used emulsion that is 9 months old with no issues. The contrast however will be lower.

For an 8x10 print you use about 2 ml of emulsion. I usually only mix 50 ml at a time because eventually there are aging issues. Being able to measure small quantities is important.

At this point wear rubber gloves! Silver nitrate will stain your fingers, and it can't wash off.

Part A:

4.5 g ferric ammonium citrate

17 ml distilled water

Part B:

0.75 g tartaric acid

17 ml distilled water

Part C:

1.9g silver nitrate

17 ml distilled water

After dissolving each part separately, combine equal parts of Part A with Part B, and then combine Part AB with Part C.

Store in a brown bottle.

Contrast Enhancement:

You can increase contrast by adding a 10% solution of Potassium dichromate to the initial wash. A half teaspoon of the 10% Potassium dichromate solution per quart of tap water should be sufficient. Enfield recommends mixing this solution at least one day prior to use. This should last for 6 months stored in a brown bottle.

10% Solution of Potassium Dichromate

50 ml distilled water

5 g potassium dichromate

Coating Tips

First note on the back of your watercolor paper the type of paper, which negative you are using, and your name if you are in a group. Coating can be done in a dim room, but no UV light. Some florescent lights may produce UV light so avoid coating under florescent lights.

Place your paper on a hard surface. I use a glass sheet.

Again wear GLOVES and an apron is a good idea to protect your clothing.

I usually use a glass coating rod. Place the coating rod on your watercolor paper and draw out the VDB emulsion from the brown bottle with a pipette. Squirt the VDB along the coating rod onto the paper and move the coating rod up and down along the paper. Have more VDB in the pipette in case the coating seems thin.

The coating must be completely dry before you can proceed (a hair dryer helps).

Air drying may take up to 45 minutes depending on the humidity of the room.

Exposure

Once you've sandwiched your coated paper and negative into a hinged printing frame, place the assembly into a UV printing box. Exposures will vary from 5 to 20 minutes. Generally, the older the emulsion the longer the exposure. Periodically check the print by opening the hinged printing frame. When the print looks right, remove from the hinged printing frame. Note on the back of the print your printing time. If you don't have a hinged printing frame, an oversized glass sheet and several binder clips can be used instead. You will still need to check the print without losing the registry (its position) between the printing paper and the negative.

Processing

Prepare 5 trays in an area that can get wet and prepare an area for a final wash.

Tray 1: Contains water but is made slightly acidic. A quart of water with 1/8 cup of Stop bath or 1/2 tsp of citric acid should be sufficient to slightly acidify the water. Slightly agitate for 1 minute .

Tray 2: Contains only water. Slightly agitate for another 3 minutes.

Tray 3: Contains water and a toner for archival properties. I use selenium toner 1 to 60 (1 tbsp per quart of water) for 20 to 30 seconds. At 15 seconds you will notice a color change. Retrieve the print when you like the color. There are several toners that can be used. I use selenium toner because it's what I already have. The reference books I list have the details for other toners.

Tray 4: Contains fixer. The fixer for VDB and Salt printing is much weaker than what is used for conventional gelatin silver black and white printing. Kodak Fixer at the strength listed on its package will bleach out your print so do not use the package instructions. Fix for 3 minutes.

100g sodium thiosulfate

200ml water

Tray 4: Contains hypo clearing agent. Place print in the hypo clearing agent for 2 minutes. I use Kodak Hypo Clearing Agent. Working strength is 2 tsp per ½ gallon.

Final Wash: Final washing is done in either in a print washer or in a bathroom shower for 10 minutes.

Line dry, mount, display and enjoy!!!

I often topcoat my alternate processed prints with beeswax. The wax gives a little protection and a slight sheen.

Reference Books

Jill Enfield's guide to Photographic Alternate Processes by Jill Enfield

The Book of Alternative Photographic Processes by Christopher James