

# **A Way of Making:**

## *A Demonstration and Discussion of Techniques in the Anthotype Process*

A workshop and discussion by Rachel Rushing

[rachelrushing.com/anthotypes](http://rachelrushing.com/anthotypes)

[hello@rachelrushing.com](mailto:hello@rachelrushing.com)

The Anthotype process is an organic contact printing method using the dye pigment of various plant life. Though the first recorded Anthotype print was made by Sir John Herschel, this process has not reached popularity synonymous with other historical printing methods. This is largely due to the impermanent nature of the chemistry, which has no standard fix.

We will consider the technical implications of material, color, contrast, dye methods, and fastness, as well as how this almost bygone process has recently found a resurgence of interest.

### *The Process*

#### Materials:

- Paper
- Plants
- Macerating tools (mortar & pestal/blender/juicer/etc.)
- Spatula
- Palette knife
- Distilled water and/or denatured or grain alcohol (190 proof)
- 1 L plastic beaker
- 1 small beaker
- Brushes
- Bottles for storage
- Cheesecloth or coffee filters
- Gloves
- Towels
- Apron
- Trays for coating

## Plant Selection:

There is very little information on how to go about choosing the best plants to work with. Flora known in the Fibers world as natural dyes (with *tinctoria* in their Latin name) work well, including indigo, woad, madder, and many nut dyes. I have found that the best plants are “meatier” with vivid colors and chosen at the height of their bloom. This is a good time to mention that you can make anthotypes from other portions of the plant, besides the petals, but using blooms will provide the most variety in contrast and color.

## Producing Emulsion:

The basic premise of producing an anthotype emulsion is to macerate and pulverize the plant material down to a pulp, then extracting the pigment. You may work under low light, but a safe-light is not necessary. If using a blender or food processor, blend and grind up the material into its pulp state. Some people choose to add water or alcohol, but doing so at this point may make the material too thick and inhibit movement in the processor. I prefer to blend as an initial stage of maceration, then using the spatula to spoon all material in a mortar & pestal or a large beaker.

If using a mortar & pestal, continue to grind the material until it has reached a satisfying point of mushiness. If using a large beaker, I like to use a palette knife to further chop and crush the material. Using a container like this allows for further maceration without getting juice and pulp everywhere, as would likely happen with a cutting board.

At this point, you may choose to add distilled water or alcohol, and strain the pulp through cheesecloth or a coffee filter. I suspect that the pulp could be drip-brewed like coffee to extract the most pigment, though I have not tried this method. It is possible to brew up the material as a dye and coat paper with the resulting liquid, but the more liquid added to the mixture, the weaker and more faint the emulsion becomes. I am also cautious of any extreme changes in temperature, as they may alter the quality or condition of the plant.

## Coating a Substrate:

Once your emulsion has been distilled or strained, you may coat your paper. There has been some discussion about sizing the paper first, but I have found this leave a strange texture and the emulsion does not coat smoothly. Paper may be dipped into, soaked in, or set on top of a bath- this typically yields in the most saturated papers. Emulsion can also be brushed on in layers. I do not like to hang my coated papers to dry because excess liquid will drain off the paper, which seem like a waste of emulsion to me. Drying flat does not always leave an even tone, but does result in the most economic use of materials and a very saturated coating.

### Exposure:

To expose, place the coated paper in a contact printing frame with either a negative, positive, or materials to photogram. Most plants used in this method require a positive for exposure, as the sun will wash out and fade the exposed areas, rather than making them darker. This is not always the case, however, as some artists have experienced emulsions reversing and becoming darker with exposure. (In Malin Fabbri's book, cinnamon and Lily of the Valley both exposed darker.) Exposure generally takes anywhere from a weekend to several months, depending on the plant. I have found vibrant emulsions to expose more quickly and provide stronger contrast than pale, thin emulsions.

Because the materials used in this process are so varied, there is no sure way to determine that a print is done exposing. The proper degree of exposure is left to the judgement of the artist, and can be checked by opening up the printing frame.

### Mordant:

Once exposure is finished, I like to mordant my prints. There is no standardized, prescribed method of fixing Anthotypes, and washing a print in running water will wash out all of the pigment. However, fiber and textile artists have been using natural dyes for centuries and will increase the fastness of their dyes with a mordant. Mordant comes from the French mordre which means 'to bite', and, historically, dyers thought a mordant allowed the dye to 'bite' into the fabric. Once chemists were able to take a closer look, they discovered that the metallic compounds combined with the dye and substrate on a molecular level.

Most dyers will pre-mordant their wool, cotton, etc., and it is possible to meta-mordant, adding a mordant solution to the dye, before coating, and producing a dye lake. For the purposes of printing an anthotype, I will post-mordant. The dye of an anthotype emulsion must be exposed to the sun and allowed to fade in order for an image to be produced. Thus, adding a mordant before exposure would result in no change throughout the paper after exposure. Post-mordanting allows the emulsion to expose and shift as it will, while incorporating a degree of fastness after the print has been made.

### Finished prints:

Once prints have been exposed and mordanted, they can be hung to dry or dried flat. Your work is then ready for display. A word of caution, though- my knowledge of the fastness of mordanted anthotypes is limited to my own experience, and I have not left any of my prints out, exposed to more sunlight. Up to this point, my prints have been kept in portfolio boxes or displayed indoors. Historically, anthotypes were kept in portfolios and drawers and only brought out for night-viewing, to minimize fading and further exposure. I would suggest doing the same, at least with your initial pieces, until you are comfortable with the process and have tried several mordants and found one to your taste that seems light-fast.

## Books mentioning or discussing the Anthotype:

- *Anthotypes: Explore the darkroom in your garden and make photographs using plants* by Malin Fabbri
- *Photogenic Manipulation: Containing Plain Instructions In The Theory And Practice Of The Arts Of Photography, Calotype, Cyanotype, Ferrotypes, Chrysotype, Anthotype, Daguerreotype, Thermography...* by Francis Peabody and George Thomas Fisher
- *Focal Encyclopedia of Photography*, 2007
- *Color: A Natural History of the Palette* by Victoria Finlay (not specifically mentioning the Anthotype, but an interesting discussion on natural colorants)
- *A Dyer's Garden* by Rita Buchanan (a great resource for information and examples of different mordants)

## Pros and Cons of the Anthotype process:

### Pros:

- Non-toxic (typically)
- A (possibly) more sustainable method of image-making
- A very simple process with loose methodology
- Wide variety of interpretation
- Possibilities for more painterly/abstract approaches to photography
- Applicable across many platforms

### Cons:

- Very slow
- Somewhat unpredictable
- Seasonal foliage and quality
- Every plant works differently, despite similarities in color, genus, or season.
- Does not hold well against traditional standards of image quality in sharpness or contrast
- No standardized fixing method