

Sabbatical Proposal 2019-2020

Stephen Callis

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Proposed Leave: Spring 2020

Previous Sabbaticals: None

Full time faculty in Photography since Fall 2012

Full time employee of the college since Fall 1998



Chordaria flagelliformis, from "British Algae: Cyanotype Impressions," by Anna Atkins, 1845. Currently on view at the New York Public Library. (Photographs from Spencer Collection, the New York Public Library Astor, Lenox and Tilden Foundations)

### **Introduction:**

I'm requesting a one semester sabbatical to research alternative processes in photographic image making. I am defining alternative processes as combining historical techniques with new and current digital technologies to produce photographic images. Currently, there is a great deal of interest within the photographic community in alternative processes. While most of these processes date back to the 19<sup>th</sup> century and in that sense they are historical, what makes them alternative today is that they are being used in combination with contemporary digital photographic image making. For the last few years, I have been interested in exploring these processes and introducing them to the students. It has been difficult to find the large blocks of time needed to devote to research and testing during the school year. This sabbatical will enable me to devote the necessary time to research and perfect these alternative processes and introduce these techniques to the photography students.

The processes I will research during my sabbatical will include:

- **Cyanotype Printing:** Dating from the mid 1840's, Cyanotype printing uses a combination of ferric ammonium citrate and potassium ferricyanide to create a light sensitive solution that can be applied to paper, cloth or just about anything that will absorb the solution. Upon exposure to sunlight or an ultraviolet light source, the chemicals turn a deep cyan blue color. The image is then washed in plain water to remove unexposed chemistry

thereby fixing the image. Anna Atkins was one of the first photographers to use the process in her studies of algae.

- **Wet Plate Collodion Photography:** Dating from the early 1850's, Wet Collodion, or wet plate photography used collodion to adhere the light sensitive chemicals to a glass plate. The plate had to be exposed and developed while still damp, thus the name wet plate photography. This was the process that Matthew Brady, Alexander Gardner and others used to document the Civil War. The contemporary photographer Sally Mann used this process to document civil war battlefields in the late 1990's.
- **Dry Plate Photography:** Dry plates replaced the wet plate process in the 1880's as the leading technology of it's day. No longer were photographers required to bring their darkroom with them to coat, then expose and develop the glass plate on site. The glass plates were used up until the invention of a plastic film that could be used to hold the light sensitive emulsion starting in the early 20<sup>th</sup> century. However, some photographers still used glass plates well into the 1920's for their unique look.

As digital photographic technology has expanded the notion that anybody with a smart phone can be a photographer, there has been a resurgence of interest in older techniques and the craft of image making. Many contemporary photographers feel digital image making is too impersonal and that using alternative processes is a way to bring the human touch back into photography. Older processes contain an element of unpredictability. It is this unpredictability that brings about new techniques and new ways of seeing. Photographers are drawn to these qualities because of the chance of discovering something new and different. Most modern day practitioners of these alternative processes use a hybrid of old and new technologies to achieve their vision; meaning there is a growing interest in creating photographs using older techniques in combination with modern digital technologies to make unique images.



"Medical Conditions" Dress made of cyanotype prints on tamale wrappers, Annie Lopez, 2013

**Proposal:**

- To research dry glass plate photography, exposure and development techniques with commercially available products. This will require extensive testing of exposure in different lighting conditions. Some of the lighting variables I'll need to test are: morning light, mid day light, afternoon light. Weather conditions such as: overcast, bright sun, and hazy sunshine. Direction of light: Light from behind, light from the side and light coming towards the camera. Each of these lighting conditions will require testing of development times for optimal contrast and tonality.
- To research the chemistry and coating techniques for coating glass plates with a light sensitive emulsion. Will need to access camera club publications from the late 19<sup>th</sup> century and correspond with current practitioners.
- Making digital negatives for use in cyanotype printing. Research and test various substrates with inkjet printers to find optimal ink densities for use in cyanotype printing.
- Chemical and coating techniques of paper and fabric used in cyanotype printing and testing for optimum exposure times.
- Wet Collodion chemistry and coating techniques on glass, tin and brass. Exposure and development tests. This step will require putting together the research on coating glass plates, composition of the light sensitive emulsion and all of the lighting conditions tests.

This one semester project will involve researching and testing these processes with the goal of being able to use them in the classroom. I estimate the costs associated with my project to be less than \$500. These would include:

- Chemicals \$150.
- Paper \$150.
- The purchase of 5 glass plate holders for use in our 4"x5" view cameras. \$200.

The Photography Program Supply budget is adequate to address the costs of this research and any supplies needed for students to accomplish their assignments. Students currently pay for any materials that they keep. These include film and photographic paper, digital memory cards and their digital inkjet prints. These supplies are available for purchase in the school bookstore and through an Inkjet Printing Card purchased in the Business Office. The Photography Program budget covers the chemistry used in the lab. I'm anticipating using the same funding model for implementing these processes in the classroom.

**Proposed uses in Photography Program Curriculum:**

Teaching these processes in the classroom will reinvigorate the curriculum in Beginning, Intermediate and Advanced Photography classes. For students taking the History of Photography course, they will have a better understanding of the techniques used to make images and will help to make that history come alive. Photographs always transform the world that we can see. By using these older techniques, we can add another way of looking at the world that opens up possibilities of perception.

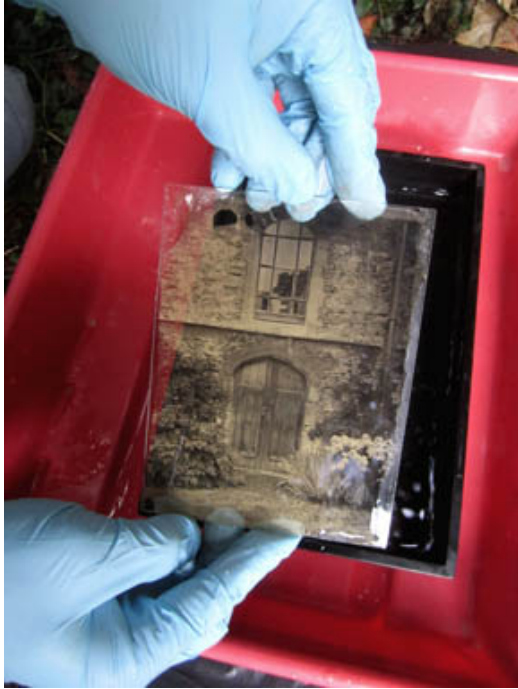
PHOT M10 Beginning Photography: Cyanotype printing would be well suited to be taught in Beginning Photography. It is a simple process requiring few materials that a large class could actively participate in producing images in one class period. A possible assignment might ask the students to place objects from home or botanical specimens on a light sensitive sheet of paper and expose to ultraviolet light. The paper is then washed in plain water and dried on a rack. This assignment could replace or supplement an already existing assignment in Beginning Photography classes that use conventional photographic paper. Students will learn about the history of photography by engaging in a hands on process that dates to the origins of photography. They also learn about the negative/positive process of photography, how different amounts of light result in different shades of blue. When it comes time to work in the darkroom, they will already have a sense how light sensitive materials behave when exposed to light.

PHOT M20 Intermediate Photography: Creating digital negatives to be used in cyanotype printing. Digital photographs are prepared for printing on an inkjet printer using a transparent medium. The resulting print is a transparent negative image that can be used in combination with cyanotype printing. The digital negative can also be used in other alternative processes such as Platinum/Palladium and Gum Bichromate printing. This is an assignment for Intermediate Photography students to build upon their previous experience with cyanotype materials and create unique images from their digital pictures. Students will learn that digital and analog processes can be combined in a myriad of ways to create unique photographs.

PHOT M30A Advanced Photography I: In this course, I would build upon student's experience with large format cameras and create assignments where they would create a photograph of their choosing using a dry glass plate as the capture medium. The students would be responsible for developing the image in the darkroom and making a print from the resulting negative either by scanning the negative and printing it on an inkjet printer or printing it traditionally in the darkroom. Students will learn how the light sensitive emulsion on a glass plate behaves differently than modern film.

PHOT M30B Advanced Photography II: In this course, students would be instructed in the art of coating a glass plate using the wet collodion process, exposing the plate in a large format camera, then processing the resulting negative in the darkroom. The negative would then be used to make a photographic print either by conventional methods in the darkroom or by scanning the negative and making a digital inkjet print.

I don't foresee any changes to the COR's for these courses being needed as these assignments meet current course objectives.



An example of a processed wet collodion negative on glass.

### **Benefit to the Students:**

- To re-invigorate the curriculum for Beginning, Intermediate and Advanced Photography.
- To expose students to these historical processes to increase their competitive advantage in both fine art and commercial photography.
- By adding this to the curriculum, students will gain a knowledge of historical processes and gain a perspective on how technology and aesthetics are intertwined.
- This is a growing niche in photography and students with this knowledge would be afforded the opportunity to start businesses around these techniques by providing materials and services to the photographic community interested in these processes. For instance, if a student became proficient in coating glass plate negatives he/she could potentially market them and develop their own business by selling these glass plates to a growing number of photographers interested in these techniques. Photographer Jason Lane uses his basement to coat glass plates and sell them on ebay as well as retailers such as Freestyle Photo in Hollywood.
- Many artists interested in these processes would be interested in hiring a technician knowledgeable in these techniques. Students could market themselves to artists wanting to explore these techniques.
- If history is any guide, techniques used in fine art photography filter down to the commercial photography world. This knowledge would give Moorpark College photography students a head start in this growing trend.
- One example is that current high-end wedding photographers are able to charge a premium for including analog (film) photography in addition to digital photography as part of their services.

**Benefit to the College/District:**

- Very few community colleges are providing an opportunity for students to explore darkroom techniques let alone alternative/historical processes.
- When this project is completed, Moorpark College would be one of the few community colleges in the state to provide the opportunity for students to explore photographic alternative/historical processes.
- Moorpark College will be a unique leader in the field of historic photographic processes.
- Currently, Moorpark College is regionally known for it's excellent photography program and well equipped darkroom, digital lab, archival printers, and shooting studio.
- Moorpark College still has a wet/analog darkroom as well as a state of the art digital facility.
- The photography faculty at Moorpark College have a background in both fine art and commercial photography.

**Benefit to Faculty Member:**

Having a sabbatical to research this project will enable me to deepen my knowledge of photographic processes and develop meaningful learning opportunities for the students in the field of alternative/historical photographic processes.

To be an effective instructor in photography, it is incredibly valuable and vital for photographers to practice their craft. This sabbatical will allow me the time to revitalize my own interest and love of the photographic medium.

The Photography Program Advisory Board fully supports my applying for this sabbatical to research alternative/historical processes in photography. I have also received support for this project from our department chair, John Loprieno, Dean Kalfsbeek-Goetz, Photography faculty Karin Johansson, Becky Brister and Bill Short.

I have already begun to do some preliminary research and tests using glass plate negatives coated with a light sensitive emulsion first formulated in the 1880's. Using these glass plates and a vintage 5"x7" camera, I've been able to create photographic negatives that are then digitized and printed on modern inkjet printers. Because 19<sup>th</sup> century emulsions were not sensitive to red colors and were instead overly sensitive to the blue part of the color spectrum, the resulting images look different than images shot on modern film which is sensitive to the entire visible spectrum.





"Sewage Treatment Outfall, Wildwood Creek, Thousand Oaks, CA" Stephen Callis 2018

### **Timeline Spring 2020:**

January: Digital negatives used in cyanotype.

1. Experiment with different substrates and how well ink from inkjet printers adheres.
2. Experiment with optimum densities for cyanotype printing.

February: Dry glass plate photography from the 1880's.

1. Experiment with exposure times and their effect on image quality.
2. Experiment with development chemistry and development times and their effect on image quality.

March: Paper coating techniques for cyanotype printing.

1. Experiment with chemical formulations to optimize image quality in cyanotype printing.
2. Experiment with different papers to be used in cyanotype printing.

April: Attend workshop on wet plate collodion process with Mark Osterman and France Scully Osterman (I plan on applying for professional development funds to pay for registration and travel).

1. Experiment on coating techniques for various substrates such as glass, tin and brass.

May: Collate results and develop assignments for students.

Fall 2020: I intend to share this information with my colleagues by teaching a two-day flex workshop with Moorpark College photography faculty on using these alternative processes so that they may incorporate these techniques into their classes. In addition, I will create a booklet with step by step instructions that can be used as reference materials for students and instructors wishing to further their own knowledge of these alternative/historical processes. The booklet (yet to be named) would be available as a printed copy in the college library, the photography lab, and also as a PDF on the Photography Program Faculty Canvas site where we share ideas, assignments and classroom materials.



Sally Mann, 'Deep South, Untitled (Fontainebleau)' 1998. Wet Plate Collodion process. Instead of trying to create perfect negatives, Mann embraced the flaws such as specs of dust or pools of chemicals. These very imperfections, Mann explains, enable her to capture a sense of the South, where "the very air is redolent with the spirits of the past." Sally Mann: Collodion and the Angel of Uncertainty, National Gallery of Art, 2018