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Plantiod Planet

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A thesis submitted in partial fulfillment for the requirements of Master of Fine Arts
at Virginia Commonwealth University

BFA, Photography Tyler School of Art, 2012

MFA, Photography & Film Virginia Commonwealth University, 2017

Thesis Directors:

Jon-Phillip Sheridan

Brittany Nelson

Nicole Killian

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Mimi, Mo, A & A & C, Azi & Alex, my thesis committee,

and every plant I've ever known

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Abstract

A thesis submitted only for partial fulfillment of the requirements for the degree of Master of Fine Arts at Virginia Commonwealth University. Virginia Commonwealth University, 2017

Thesis Directors: Jon-Phillip Sheridan, Brittany Nelson, and Nicole Killian.

This thesis examines my studio practice and research during my studies at Virginia Commonwealth University in the Photo & Film MFA program, which has culminated into my thesis exhibition. Through traditional portraiture and landscape photography that utilize contemporary photographic practices such as digital processing and material studies, my work in *Plantiod Planet* creates a fiction which examines plant intelligence and the gendering of landscape.

Introduction

During the past two years at Virginia Commonwealth University, my work has focused on creating photographs influenced by space photography and science fiction, depicting futuristic worlds and plant-like specimens. My studio practice includes extensive material studies, digital manipulation, and traditional photography. Through my work I seek to understand the significance of the materials that I use sculpturally, combining my photographic practice with research to create narrative, fictitious works. In this paper, I will discuss how I utilize contemporary photographic practices such as digital painting, cloning, material studies, and creative writing in my work. Influenced by science fiction, anxiety, plant intelligence, and historical gendering of the landscape, my thesis exhibition *Plantiod Planet* imagines a sentient, genderless landscape as part of a utopic, futuristic civilization. My work imagines the future of the landscape by focusing botanical subjects, real or constructed, attempting to predict how plant intelligence could shift and evolve in the future. I create new specimens that seem fantastical but are intelligent and sensitive.

Material Studies

My practice consists of material studies in the studio, particularly materials with certain optical qualities that either mimic digital paint brushes and effects, or shift, for example: fabric moving in the wind, or a reflective material that changes color. My interest in the malleability of an image also exists in the digital space. Digital space and physical space can be distorted in similar ways even though one plane is flat and the other is three-dimensional. I have been experimenting with printing on different materials and obscuring the image and distorting it with other objects in lieu of digital tools like the clone tool or liquefy stamp.

An example of one of the materials I work with is dichroic film. Dichroic film is a thin film that is currently used in architectural applications, but blocks out certain wavelengths of light. Dichroic glass was originally developed by NASA as an interference filter to protect against UV radiation. The protection comes from a thin layer of precious metals, such as gold, platinum, and titanium.
This material has a functional use but is also used in crafts, such as glass-blowing. Materials that have both practical and decorative functions are important in my work since I often think about how gendered certain materials can be. For example, dichroic film is reminiscent of the aesthetic of opalescent dresses on Barbie dolls, yet the original use of the material has a mechanical purpose.

During the summer of 2016, I created fantastical, surreal botanical specimens using craft materials. I gravitated towards using children's modeling clay and beauty products, since they are often brightly colored materials. The first iterations were made to understand how the materials can be used.

The second and third iterations were influenced by gendered, feminized materials—for instance lipstick, hair extensions, and fake eyelashes. Using these materials, I was thinking about how gender is constructed and gendered products are marketed. Pat Kirkham states in The Gender Object:

> The degree to which gendered objects are part of, and inform, wider social relations is exemplified at every level of daily life. It stretches from the type of clothes we wear to work or […] the design of cars to hair-dryers and hi-fi equipment. At one level, the gendering of objects is an extremely complex process, which sometimes seems impossible to elucidate, yet the over-determination of coding involved in the construction of certain objects as 'male' or 'female can sometimes seem crude, almost comical.[1]

These qualities make the specimens seem whimsical, fantastical, and oftentimes humorous. The children's modeling clay also had a flesh-like, porous quality. This physical characteristic gave the specimens an almost muppet-like quality. I used the circular frame to present these works. Each image is a window, petri dish, or a portal looking onto this constructed world.

Another material that has been crucial to my practice this semester has been sonic biofeedback from plants. I have been using the Midi Sprout, a plant sonification device developed by sound artists Joe Patitucci and Jon Shapiro. The Midi Sprout works by measuring "micro-voltages on the surface of the leaf, and any change in the electrical current,"[2] similar to how a lie detector test works. Instead of simply recording the measurements as data, the data is converted to MIDI data and manifested as musical notes. During my experiments with the Midi Sprout, I would put the house plant that I was recording into similar situations that I would normally go through in my apartment. I played Black

[1] The Gendered Object, Kirkham, Pat and Attfield, Julia, p. 5
[2] "Inside the Spiritual World of Plant-Based Instruments." *Thump*. N.p., n.d. Web. 1 Apr. 2017.

Sabbath for my plants (music that I would be listening to in my room with my plants) and noticed a significant change the output of notes through the Midi Sprout. I played the sound of water for my plants as I am always listening to the rain and also noticed significant responses from the plants. A cutting from a plant touches the leaf of its mother plant, while I talk to my mother on the phone. The plant's' electrical impulses were different for each activity. I have researched about plant intelligence, but the Midi Sprout solidified in a very concrete way, the notion that plants can sense, feel, smell, and hear.

Plant Intelligence

Experiments on plant memory and cognition have been important to my work imagining futuristic beings, especially with so little we know currently about plant intelligence. It is a fairly new topic in botany in the last fifty years. Plants have memories, and are social -- they can communicate with one another, generally by releasing gases to warn of danger. They have something similar to an olfactory sense in humans. In past experiments, plants were experienced to be almost psychic and could sense danger. Cleve Backster, a CIA polygraph expert, experimented with a polygraph test on plants. Polygraphs, also known as lie-detectors are designed to measure physiological changes, shown as spikes in data. In one experiment that was designed to test plant memory, "Backster found that a plant that had witnessed the murder (by stomping) of another plant could pick out the killer from a lineup of six suspects, registering a surge of electrical activity when the murderer was brought before it." (New Yorker). In another test, he "found that simply by imagining the dracaena being set on fire he could make it rouse the needle of the polygraph machine, registering a surge of electrical activity suggesting that the plant felt stress."[3] I started to wonder, if plants are intelligent, what would the future look like as they evolve? What could intelligent plant-life look like on other planets? What if these lifeforms were "plantiod" or plant-like?

Interestingly, the function of the aforementioned Midi Sprout recalls Cleve Backster's experiments using a lie detector test on his houseplants:

> In human subjects, a polygraph measures three things: pulse, respiration rate and galvanic skin response, otherwise known as perspiration. If you're worried about being caught in a lie, your

[3] "Cleve Backster Talked to Plants. And They Talked Back." *The New York Times*. The New York Times, 21 Dec. 2013. Web. 28 April 2017.

> levels will spike or dip. Backster wanted to induce a similar anxiety in the plant, so he decided to set one of its leaves on fire. But before he could even get a match, the polygraph registered an intense reaction on the part of the Dracaena. [...] the implication was as indisputable as it was unbelievable. Not only had the plant demonstrated fear — it had also read his mind.[4]

This research was the basis of the beginning of studies into plant intelligence and what some call "plant cognition." This (yet to be proven) science is the source of the fiction in my work.

In *The Mushroom at the End of the World*, in a chapter titled "The Life of the Forest," the author A.L. Tsing posits a question: "Can I show landscape as the protagonist of an adventure in which humans are only one kind of participant?"[5] The author makes the case for treating living, nonhuman things as knowing objects and not as lifeless objects, but as important species in our "collaborative survival." This case is made by going into detail about the symbiotic relationships of the pine wilt nematode and the pine sap beetle, whose movements have to be precise in order for their collaboration to work.

The ideas of symbiosis and sentience show up when I researched plant intelligence. Surely these collaborative survival networks exist all throughout nature, but my fascination with plant intelligence arises out of its "brainless" cognition (note: Plant cognition is a fairly new term and study) – plants literally sense, feel, smell, hear, and communicate. Andrei Tarkovsky's science fiction film *Solaris* depicts the landscape as intelligent. Solaris is a planet covered with a sentient "ocean" and atmosphere. This intelligent lifeform is unlike what humans understand intelligent lifeforms to be – it

[4] "Cleve Backster Talked to Plants. And They Talked Back." *The New York Times*. The New York Times, 21 Dec. 2013. Web. 1 Apr. 2017.

[5] The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins by Anna Lowenhaupt Tsing. Princeton: Princeton University Press, 2015.

has no organs-- no brain, and no nervous system. For some of my landscape photographs, I consider the ways which plants communicate. Trees are known to communicate through electrical impulses in the roots.[6] The beings that I create are both part of the landscape of this futuristic world, as one specimen, as well as individual beings. They can exist as one being or multiple beings.

[6] "BBC - Earth - Plants talk to each other using an internet of fungus." *BBC News*. BBC, n.d. Web.

Gendering Landscape

The gendering of nature is historical and has been happening for centuries. Eco-feminist Carolyn Merchant describes this identification of Earth as "a nurturing mother; a kindly beneficent female who provided the needs of mankind in an ordered, planned universe." She also describes an opposing definition of nature, which was still feminine – "wild and uncontrollable nature that could render violence storms and droughts."[7] Merchant goes on to say that "as Western culture became increasingly mechanized in the 1600s, the female earth and virgin earth spirit were subdued by the machine," making nature secondary to technology and susceptible to conquest, mining, pollution and other destructive actions towards the environment – ways of taming the powerful. It is easy to see how this attitude has led to the Anthropocene, an unprecedented moment in our geological time where human activity has direct impact on the climate and environment, resulting in what is currently the beginnings of a sixth mass extinction, unpredictable and dangerous weather patterns, tectonic activity (see: fracking) and the reshaping of continents.

One of the first photographic books was created by the botanist Anna Atkins. Her extensive work chronicling the various marine plant species she collected, *Photographs of British Algae: Cyanotype Impressions* (1843), includes images which were created with camera-less photograms on cyanotype paper. In Lyle Rexer's *The Edge of Vision*, Atkin's work is described as "admired by both photographers and the scientific community," but "its popularity was based not on its denotative accuracy, but on the *novelty of color and the primacy of pattern*."[8] Her work was scientific in nature,

[7] *The Death of Nature: Women, Ecology, and the Scientific Movement*. Caroline Merchant. San Francisco: Harper and Row, 1980.
[8] Rexer, Lyle. *The edge of vision: the rise of abstraction in photography*. New York: Aperture Foundation, 2013. Print.

but the work was described in words that describe women's work — terms of craft and decorative arts. Not only did her work become feminized in these terms, but the environment she was depicting becomes feminized in its description. This work is in contrast to Ansel Adams, who photographed images of vast landscapes, focused on the complexity of the nature and biodiversity.

Plants and the landscape are already defined by gendered terms: *passive, giving, nurturing, Mother Earth* – terms that have been placed on "feminine" bodies, as well as the environment. Plants have been proven to have memories, can communicate, are social, and can sense danger; intelligence that is often overlooked. I create works within a science fiction narrative that investigate plant intelligence through creating fictional plantiod specimens, through self portraiture. The material studies for the last two years come together now in front of the camera. I considered the self-portrait as a way to bring my body into the photograph, since their would be a lack of objectification fetishization of the body. One artist that uses the self-portrait is Jen Davis. "The fact that these images are self-portraits alters the way they should be understood. Davis is not being watched and judged by these images, and instead is shaping each scenario both as the author and the subject." [9] By photographing myself, I am in control of the content and generally, the way the work can be perceived. Instead of fetishizing my body and my face, I am depicted not as passive, nor judged. As the subject and photographer, I am in control of the gaze. Another artist whose self-portraits I have been researching are Whitney Hubbs. Whitney Hubbs self portraits in the studio are more specifically about the body, and she describes the imperfections in the images:

> In one of [my] pictures, of a woman wearing blue tights, her skin is sagging because it is

[9] Photo, Flak. "Self-Portraits | Photographs by Jen Davis, Essay by Hannah Frieser." *FlakPhoto*. N.p., n.d. Web. 1 May 2017.

> being twisted. I like those imperfections, which match the imperfections of the color in some way. I think a lot about performance artists of the 70s, like Ana Mendieta and Yvonne Rainer. There were mistakes in their performances because they're doing it live. I wanted to capture that sort of essence, to have it not be too perfect.[10]

I like to think about the seams from digital photoshop techniques as these imperfections, on top of the inevitable human mistakes from applying glue, honey, and floral materials onto my body. My performance in front of the camera is also imperfect, which gives my Plantiod depiction a very human-like quality.

[10] "Photographer Whitney Hubbs's Genre-Busting Images of the Female Form." *Vice*. N.p., n.d. Web. 1 May 2017.

Photography as Science Fiction + Imagined Landscapes

Science fiction can attempt to imagine the future based on the trajectory of our current history. While the depictions of the future can seem outlandish, they are based on present truths and reflect the fears and problems of the past and present. In my thesis, the work imagines the future of the landscape by focusing botanical subjects, real or constructed, attempting to predict how plant intelligence could shift and conquer in a post-human world. In science fiction films depicting interstellar space travel, plants are often secondary and used as a source for oxygen or food, and are seldom depicted as intelligent creatures. In my work, the secondary landscape, as well as my body, are primary players. I am the only body in the images in my newest body of work, becoming a Plantiod lifeform myself. I am part of the landscape; photosynthesizing, growing, and evolving.

Public, indoor spaces are often decorated with plants, and improve productivity, provide a sense of calm, etc. *"The reasons why plants have these psychological benefits* for us are still mostly unknown and may go back far in time, bound up in our unconscious awareness that without them life or our species wouldn't be possible." In science fiction films, the "aliens," or the other, are often depicted as a horrifying and grotesque figure. At the end of the essay *Visions of the Future*, the author H. Bruce Martin states:

> The only future that seems unimaginable is a better one [...] perhaps these movies are then best seen as warnings - whether or not intended - not to follow the leadership of a society that doesn't know where it's going or sees its own future as hopeless."[11]

[11] "Visions of the Future." Franklin, H. Bruce. ed. Kuhn, Annette. *Alien Zone: cultural theory and contemporary science fiction cinema*. London: Verso, 2003. Print.

The direction I would like my work to take is hopeful for the future, opposite of most depictions that Martin discusses. I depict the plantiod planet as a secure world where I as a plantiod thrive, especially with my surroundings.

Images from space and astrophotography have been helpful in creating my composites. The last two years in particular have been incredible with images from the Mars rover, the Hubble Space telescope, the Cassini spacecraft, and New Horizons. Many images from the Hubble space telescope are composites and begin as black and white photographs. The color is rendered in an additive process, where images are composited with photographs taken in three different color filters: red, green, and blue, identical to the three-color process of the first color photographs. Other process can involve the combination of infrared, visible, x-ray, and UV light. I like to think about how the colors are essentially imagined, and not entirely accurate because of the process, so I use a lot of color manipulation and layering in my work to create new landscapes out of familiar and existing landscapes, or objects. I also render landscapes using the 3D tool in Photoshop, creating stalactite-like textures referencing a virtual, imagined space. Using processes very similar to astrophotographers, I composite my works in a more crude and collage-like manner than these astro-professionals, making the images nearly convincing, but most definitely fake.

Keywords and Examples of Prose

Writing was important for my process in the last two years, but simply informed the image-making process and material studies. Since they were mostly rooted in dystopian narratives, which weirdly made the images feel less hopeless. Below are a few examples:

Missions to Endless, what was then Kepler 8753-B, started around 2053.

Blue stars are the hottest stars

Plantiods absorb cobalt light

Mini-blackholes for travelling swiftly

Lacey craters rendered

Cultivating

Language as ripples in magnetic field

Glowing, radiant, radiation

Bloodmeal to multiply

Vessel or a Portal?

Original narratives in 2015:

“The trees in Pennsylvania were always falling. The rain was endless so they just gave up at the roots. I think I miss the trees most of all, maybe. In the west, they all dried and burned up. Here it was flooding all the time and I tell you those trees just couldn't stand it. I couldn't either. Now that they're gone I wish I was with the trees. We live in sterile rooms with white walls and I can't even remember what the sun feels like.

At some point the greenhouses couldn't even keep them alive. The horticulturalists kept photos of every specimen they were growing. When one died out, they would project an image where the plant used to grow. I hear the projector is broken now.

Okay, so it's lost. It's lost. And what do I have? I have images. I have memories. I have this rose oil. It's synthetic. My uncle had roses in his backyard and scented geranium. It doesn't really smell like the backyard but I wear it everyday and think about holding a dove for the first time that sunny garden. I have this picture of the roses, except I can't remember if I took it or if I found it."

The text was an important practice for me especially since I have been considering the ways text can be incorporated into my work. I like the ambiguity of the text, which takes place in a post apocalyptic future where humans exist without botanical life, with only documents and images of what used to exist.

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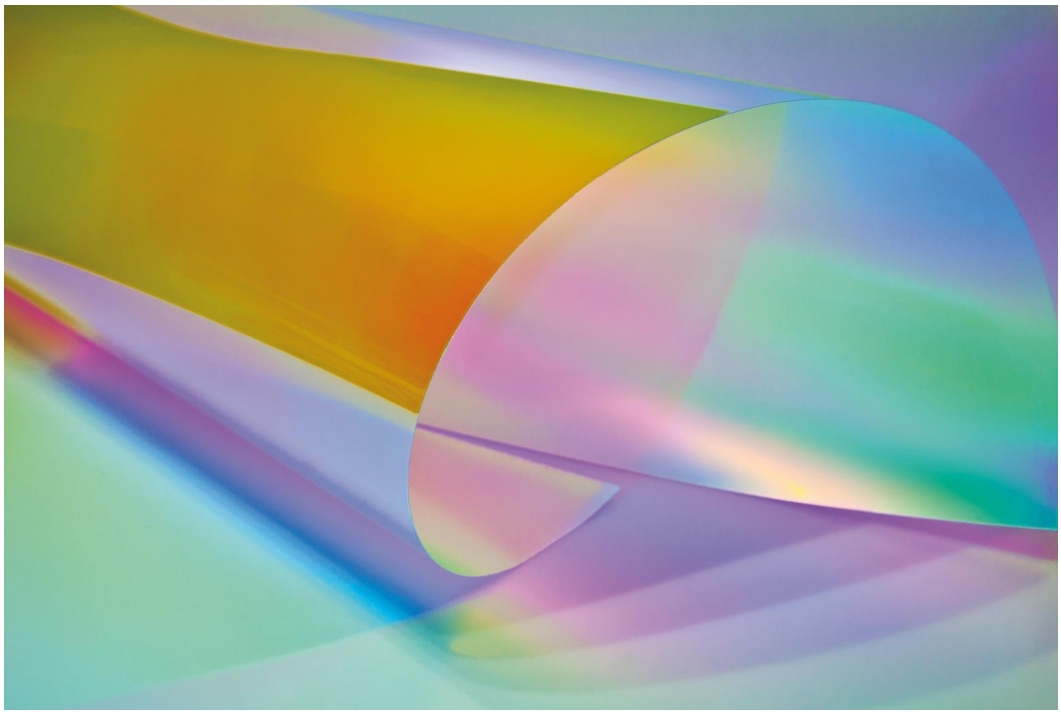
rich in titanium, which gives some iridescence to its organisms. Silver is also prevalent, particularly in the atmosphere, resulting in a dark blue haze throughout this world.

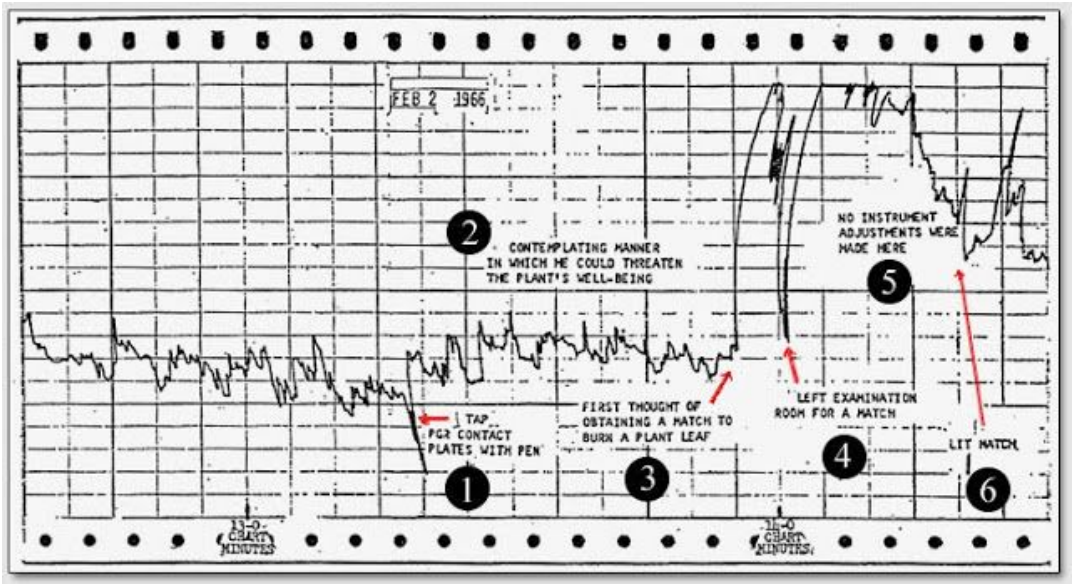
The blue skin is from argyria, which is the result of the atmosphere's silver content. The silver is absorbed through the skin quite easily.

Conclusion

My work has shifted in many ways since I started graduate school, but the same basic research practices have been crucial. Material studies are the most important studio based practice in my work, focusing on malleable and optically shifting materials. Plant intelligence and science fiction narratives co-mingle, mixing my very fake science with real science. The traditional practice self portraiture and still lives brought my work out of the landscape and into the studio to create more convincing anthropomorphic beings in the worlds I have created. My ideas of the what the future could be are more utopian, and less nihilistic than popular depictions of the future. The landscape that was once gendered is less so, and the futuristic beings that exist are important for other life to exist much like plants on Earth, and perhaps even make life better for the people who visit the Plantiod.



Dichroic film

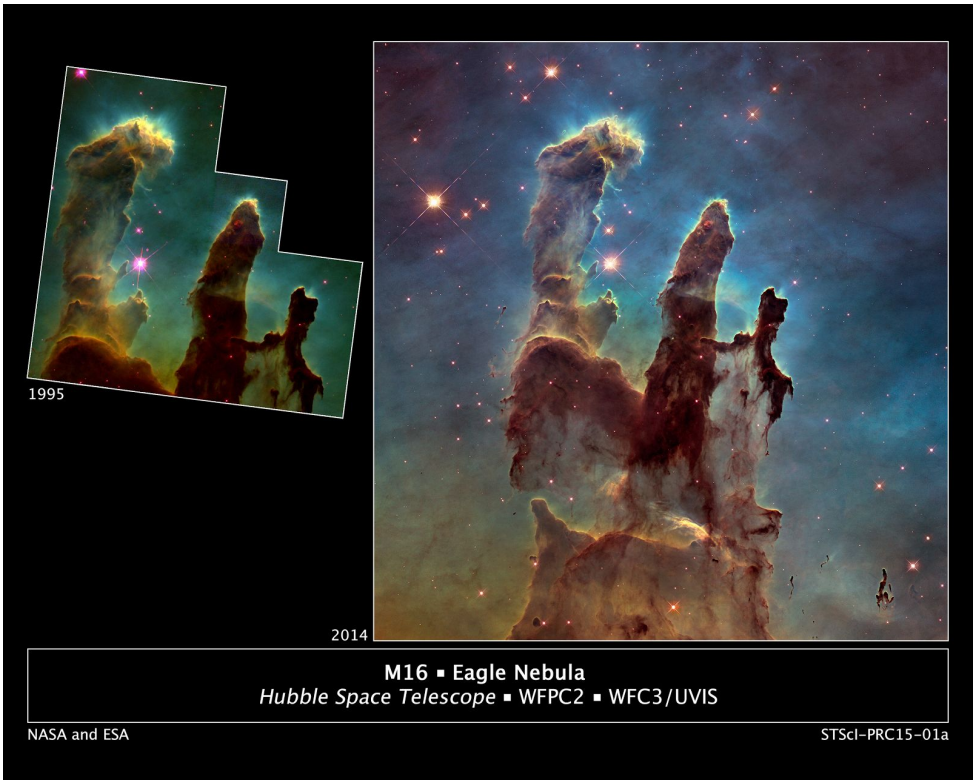


Cleve Backster's polygraph experiment with draecana

Image of person using Midi Sprout

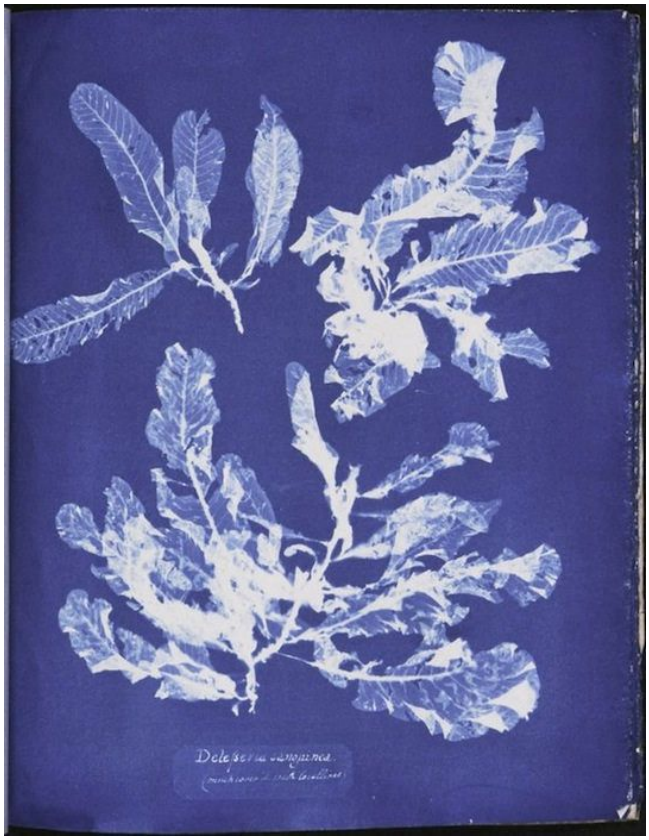
https://www.dropbox.com/s/uc6c4itnh1wcj4p/calathea%20001.mp3?dl=0

First iteration of calathea plant in different scenarios placed by artist using Midi Sprout



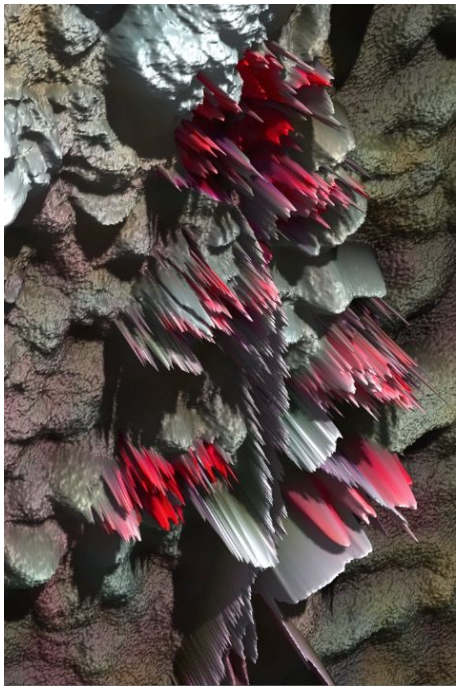
Pillars of creation, composited using red, green, and blue filters. Imaging by NASA/Hubble Space telescope

Photograph by Ansel Adams.

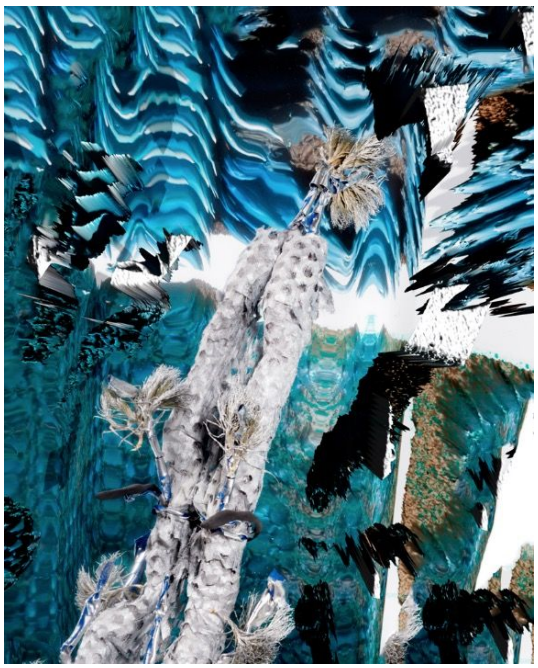


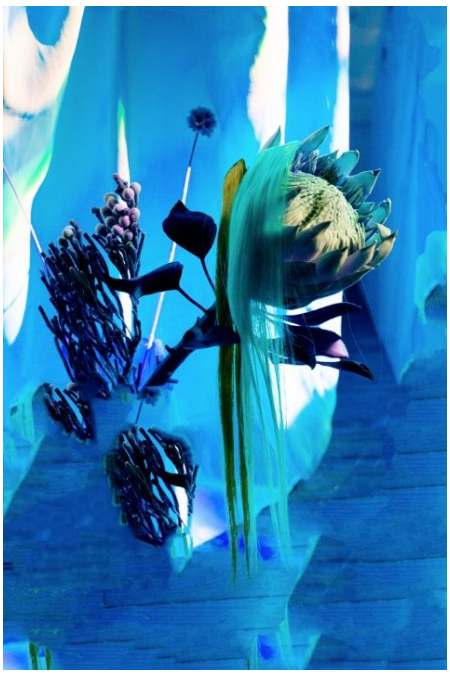
Cyanotype by Anna Atkins

Composited science fiction landscape image, 2015-2016



3-D Rendered landscape image, 2016





Original “plantiod specimen” and landscape photographs using craft materials and beauty products, 2016-2017

Artist with plants and plantiod specimen prints on dichroic material

Photograph by Whitney Hubbs

Photograph by Whitney Hubbs

Plantiod Landscape 1

Living Tectonic Activity on Plantiod Landscape

Self portrait as Plantiod Being, 2017

images from Thesis exhibit, Plantiod

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