Fixing the Shadows

A photographic exploration of beginnings and endings

A dissertation submitted in partial fulfilment of the requirements for the award of the degree Master of Fine Art

Michaelis School of Fine Art
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Declaration

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

Signature:

Date:

Vanessa Cowling

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Abstract

Fixing the shadows is a photographic project that focuses on processes of cameraless photography and seeks out new ways to work with darkroom-based photography that I regard as less environmentally and personally destructive. I explore how methods of fixing an image trace can technically represent a form of mending, which I associate with the practice of care.

The project is reliant on the reciprocal relationship between myself and plants, acknowledging plant agency. *Fixing the shadows* is also a personal project that began with the death of my father, and in this sense seeks to mend a personal grief. Together with students, family, friends and colleagues, I have planted and grown a sustainable photographic garden. It is a gesture of reciprocal practice to heal a small piece of ground, which is indicative of a larger world in environmental crisis.

The exhibition is comprised of the garden, lumen prints, anthotypes, phytograms and a light installation presented in immersive form. The presence of plant life is traced through chemical processes of cameraless photography and the unusual colour emanations that result from its shadows. It is hoped that this immersive, dynamic exhibition will for a moment dispel fear and grief, bringing the viewer out of the shadows and into the light.

Introduction

Figure 1
Vanessa Cowling
Untitled, from the *Mending Series,* 1998
Colour Photograph
50,8 x 61 cm

Figure 2
Vanessa Cowling
Untitled, from the *Mending Series,* 1998
Colour Photograph and Embroidery thread
50,8 x 50,8 cm

In 1839 Henry Fox Talbot coined the phrase "The art of fixing the shadow" (Campany, 2017: 52).[1] While people understood how light worked (as evidenced by the *camera obscura*), this "fixing", or ability to make the photographic image permanent (particularly the shadows), had evaded scientists and artists for centuries.

Talbot's major contribution to the field of photography was to use sodium thiosulphate, or fixer, in the photographic process.[2] This made the photograph permanent and unchanging in the face of further exposure to light – or so it seemed.[3] Fixing my images – and choosing when to fix them – is central to my work, as explained later in this document.

The title of my MFA, *Fixing the shadows*, refers not only to photographic fixing but also to the idea of mending. In my work I evoke the domestic task of mending in relation to fixing something, remaking it. In works I have made in the past, as in the *Mending* series (1998) (Figs. 1 and 2) and *Family heirloom* (2008) (Fig. 3), I enacted mending or fixing by literally stitching, sewing and darning into my photographs. In my latest body of work, fixing is enacted in the form of care. As a mother, I associate this with caring for a sick child: when my children are ill, I stay up, I bring them medicine, I smooth their brows, I use kind and encouraging words to help bring them back to health. Similarly, by enacting care within all my photographic choices in *Fixing the shadows* I hope to fix photography's environmentally destructive dark side and bring it out of the symbolic shadows and into the light.[4] Thus, I investigate "responsible" or sustainable darkroom practices as an enactment of care and fixing.

On a micro level, plants sequester carbon, fixing carbon from the atmosphere back into the earth through the process of photosynthesis, converting and fixing one material to another. On a macro level, astronomers have mapped and fixed the location of stars when looking to the night sky and the distant past, to the beginnings and endings of everything.

In this body of work, I am concerned with these multiple notions of fixing. These include fixing as it pertains to photography; fixing through the enactment of care; fixing in relation to plants and the transformation of materials; and fixing as a means to locate myself.

The shadows in *Fixing the shadows* are also significant. To see the shadows, I must have light. The word photography has its origins in the Greek *phōtós*, meaning light, and the French *graphé* or German *graphein*, meaning to draw – so together meaning "light drawing" (Harper,

1. The invention of photography was announced in 1839 by William Henry Fox Talbot and Louis-Jacques-Mandé Daguerre (Campany 2017, 51). Although they did not use the word "photography" (but "heliography" and "daguerreotype"), it started to circulate around this time, being used by various scientists experimenting in this field. My title, "Fixing the Shadows", comes from the 2007 BBC production "The Genius of Photography" (BBC 4, 2009), where I first heard the phrase, and is a shortened version of Fox-Talbot's original phrase, "The art of fixing the shadow" (Campany, 2017, 52). "The Art of Fixing the Shadow" was also the title of a photographic exhibition at The National Gallery of Art in Washington DC in 1989 (Campany, 2017, 52).

2. When a photographic substrate containing light-sensitive silver halides comes into contact with light, the chemical structure of those silver halides changes. The change is latent until chemically developed in the darkroom. Development is stopped by an acid bath and fixed by a solution of sodium thiosulphate. The fixer washes away the light sensitive silver halides that remain (in the shadow areas), as they have not been exposed to light. The terminology "fixing the shadows" therefore makes more sense within the photographic notion of negatives and positives.

3. While photographic fixing appears to stop change, it actually only slows its potential. This slowness is imperceptible, making the photograph appear stable (Anchell, 2016).

4. Traditional darkroom practice is at odds with responsible environmental practice, as it uses silver, a finite resource extracted by mining, which harms the environment. Commercial developer, stop and fixative are also bad for the environment. Water, a limited resource, is used extensively, not only in the making of photographs in the darkroom but also in the manufacture of photographic film and paper.

n.d.: online). Light and its obstruction cause shadow, and I want to draw attention to the notion that shadow is *caused*; it is *made* or *constructed*. Photography, or light drawing, could equally be called "shadow drawing". My interest in exploring the shadows is always fundamentally linked to light and what it reveals and conceals.

In its traditional form, photography is mimetic, always bound to a "referent", to use Roland Barthes's term (1984: 9). I work with plants, the earth to consider the subterranean, entangled, unseen world, beneath the stems, leaves and flowers and I translate some of these plant bodies into imagined cosmologies. These two realms may seem very different and far apart, but visually and elementally they are strangely similar. In *The hidden universe*, Alexandre Antonelli (2022 : 22) reminds us that "we're all just 'star dust'" – as nearly every element on Earth was created in the heart of the stars. We, plants and humans, were born from the stars. Within my writing and exhibition, I represent both plants and the cosmos, but there is a greater weighting to plants. It is my intention to move more into the realm of the cosmos after this exhibition. In *Fixing the shadows* I begin this exploration. For now I am especially interested in the knowledge that both photosynthesis and photography have "photo" (or light) as their root, and in my work I aim to draw out the light of plants and highlight their shadows.

As my title suggests, this MFA project is about photography – and therefore about light, time, space and processes of fixing.

Figure 3
Vanessa Cowling
Family Heirloom, 2008
Salt Prints on Cotton Paper and Cotton thread
80 x 54 cm

Section One

Locating my practice and fixing the shadows

Figure 4
Deborah Polyton
Land of Cockaigne 2, 2011
Oil on canvas
200 cm x 250 cm

Figure 5
Jonathan Freemantle
Temple of Flora, 2014
Steel, aluminium, Perspex, glass, plants, plant essential oil, paint, soil, LED light, wood
260 x 420 x 260 cm

5. "Plant blindness" is used by Aloi to describe the invisibility of plant agency to human bodies.

Photographing the earth and working with plants

My mother has "green fingers". In her care, anything grows. For as long as I can remember, my mother has found joy in caring for plants. When we moved from the Eastern Cape to Cape Town, my mother needed an entire removal truck just for her potted plants, a non-negotiable condition for our relocation despite the cost. We moved many times in Cape Town, but my mother always made our rental accommodations feel like home with her plants. As a child I was often extremely embarrassed as my mother took a slip or cutting on our neighbourhood walks. She would even stop her car at the side of the road to carefully take a slip from a plant or an unsuspecting stranger's property, often a species absent from her garden. Of course, she would happily return the favour, giving plant cuttings to friends, neighbours and strangers. I did not realise it then, but my mother is a plant activist and, in her care and in her communal gathering and sharing of plants, she is an environmental and political activist, too.

The world needs environmental activists right now, and perhaps the seeds of my sense of responsibility for the environment were sowed many years ago, by my mother. She nurtured in me a need to care for and propagate the plants around me.

In *The nation of plants*, Stefano Mancuso writes that "our only chance of survival depends on plants" (2021: 94), because through photosynthesis plants can fix the carbon dioxide in the atmosphere, making sugars and releasing oxygen as a waste product. Humans and other beings consume the sugars, inhale the oxygen and return carbon dioxide to the atmosphere. In *Thus spoke the plant*, Monica Gagliano (2018) takes the idea of plant/human interconnectedness further, imagining the blood in human bodies carrying red blood cells with haemoglobin, trapping oxygen and carrying this trapped oxygen to the lungs and releasing carbon dioxide as a waste product, which in turn is internalised and converted by plants. According to this thinking a reciprocal, bodily relationship exists between plants and humans; I can breathe because of plants.

This visceral, bodily connection between humans and plants allows me to consider more fully and minutely my interconnectedness with all matter, especially plants, and to reflect on what a mutual, balanced relationship and world might look like. I imagine a world in which nothing becomes depleted, but this is harder to imagine as rapid climate change, the destruction of forests and environmental disaster loom ever closer.

At one time in history humans, plants and animals lived reciprocally and the carbon cycle was in balance, but it has become unbalanced since the Industrial Revolution. Industrial machinery and capitalist markets have created a world in which more carbon is made than can be converted by plants, leading to the greenhouse effect and global warming, which scientists predict will dramatically change life on Earth – and not for the better (Mancuso, 2021).

If our lives literally depend on plants, why does humanity not care for them better? Why do humans continue to cut down forests and replace green spaces with concrete? And what does this have to do with art – and photography in particular?

In *Why look at plants? The botanical emergence in contemporary art,* Giovanni Aloi (2019) addresses some of these questions through an in-depth exploration of the relationship between plants and humanity and art. Aloi asserts that humanity's belief in its superiority over all other species has led to the domination and destruction of the planet instead of its nurture and care. Seeing plants as objects rather than subjects leads to what he calls "plant blindness".[5] Aloi traces plants through art history to explore when and how our relationship with plants changed, writing a historical account of the representation of plants from the Middle Ages until today.

Artists have depicted plants from as early as people can find artefacts to trace them, and *Flowers: Exploring the world in bloom* (Pavord, A (contrib. ed.), 2020) suggests the first record dates back to c. 3000 BC. This book offers a global exposition of the relationship between art and plants, including the photographing of plants after 1839.

In a South African context, *Exact imagination: 300 years of botanically inspired art in South Africa* (Coetzee et al., 2014) offers an in-depth local historical account of plants in art and includes the work of contemporary artists such as William Kentridge, Deborah Poynton, Willem Boshoff, Gerhard Marx and Jonathan Freemantle (Coetzee, 2014) (Figs 4 & 5).

In the same publication, John Rourke writes that "spanning two millennia" in a number of parts of the world, "botanical art is an expression of our wonder at the sheer beauty and intricacy of nature's designs. In a more subliminal sense it is perhaps a subtle acknowledgment of man's complete dependence on the plant kingdom for

Figure 6
Aloe ferox included in a San Rock Painting, Date unknown
Size unknown

Figure 7
William Fox Talbot
Botanical Speciman, ca 1839
Photogenic drawing negative
Size unknown

6. Frenchman Louis Daguerre announced his own photographic process, named the Daguerreotype, in the same year, prior to Talbot's announcement. It is a complicated and dangerous process that uses mercury and silver iodide on a copper plate to produce a single, positive image (Batchen, 2016: 7).

7. The result of Talbot's cameraless contact images are generally known as photograms, although the term seems to first have been used in the 1920s (Barnes et al., 2012: 195). Talbot used the term photogenic drawing, as well as sunprints or heliographs.

8. Sir John Hershell is credited with inventing the cyanotype process in 1842. He and his wife, Margaret Hershell, spent time in Cape Town from 1834 to 1838, just prior to the invention of photography, studying the Cape floral kingdom and documenting the southern skies (Rourke, 2014: 21).

9. Cyanotype or blueprint uses a mixture of a solution of Ferric Amonium Citrate and Potassium Ferricyanide that when added together become light sensitive. It is coated onto a surface like paper or cloth, allowed to dry and then an object is placed upon it and exposed in the sun or under UV light. Once exposed and then washed, the print dries into a rich cyan like blue colour, hence the name cyanotype or blueprint.

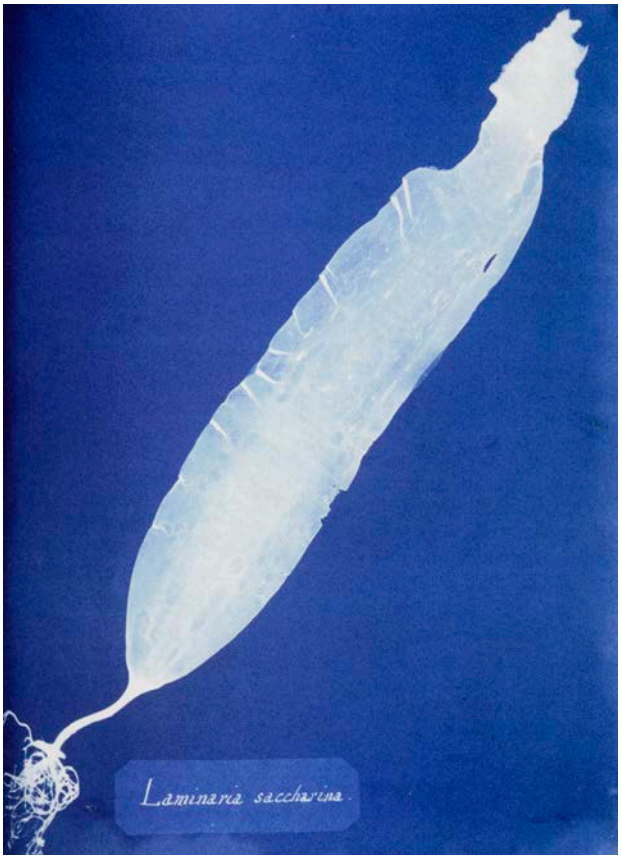
his survival" (2014: 13). Rourke notes pre-colonial rock art representations of plants on the subcontinent of southern Africa, evidence that hunter gather societies used plants for medicinal and ritual purposes (Fig. 6). With the arrival of the first colonists in 1652 plants were depicted more for "utilitarian and later scientific reasons" (Rourke, 2014: 13).

The European scientific gaze directed at plants expanded with the invention of photography in 1839[6] by Henry Fox Talbot, a "botanist of international repute" (Batchen, 2016: 8). Talbot placed plants directly onto light-sensitive paper, making early photograms[7] that he believed showed "the utmost truth and fidelity, exhibiting even the venation of the leaves, the minute hairs that clothe the plant, etc." (in Batchen, 2016: 8). As in earlier botanical drawings the plant is here removed from context: the leaves seem to float on the page, defying gravity and in isolation, lacking any indication of their natural context. The plant is depicted as a specimen, with the photograph a taxonomical index and the photographer/botanist/scientist the sole, primary agent (Fig. 7). The contact print is a monochromatic brown not true to the plant's actual colours, but Talbot was able to present the scale and proportions of the plant more reliably than contemporary realistic botanical drawings.

A short time later Anna Atkins, a colleague of Talbot and Sir John Herschel,[8] cemented the role of photography in regarding plants as objects of scientific study. Atkins is regarded as the first person to make photographic books, as early as 1843 (Batchen, 2016), using plants and the cyanotype process.[9] The plants, including algae and seaweed, were intended as a descriptive taxonomy to help recognise and scientifically catalogue different plant species. The plants were typically placed centrally, with all parts of the plant fitting onto the paper. The albums were hand printed and circulated, promoting photography as a realistic, scientific medium (Figs. 8 & 9).

Contemporary photographic and installation artists like Naziha Mestaoui, whose work is discussed below, work with plants as their subject. Some work with plants as objects, for example, Robert Mapplethorpe (Fig. 13), and some, for example Mark Dion's *Neukom Vivarium* (2006) (Fig. 10), work more consciously with plants and see them as connected to humanity or as part of a cycle with humanity and other beings.

In Sally Mann's work, the land (and therefore plants) and human bodies merge and reveal an equal fragility, particularly in *Deep South* (1998) and *Body farm* (2000–



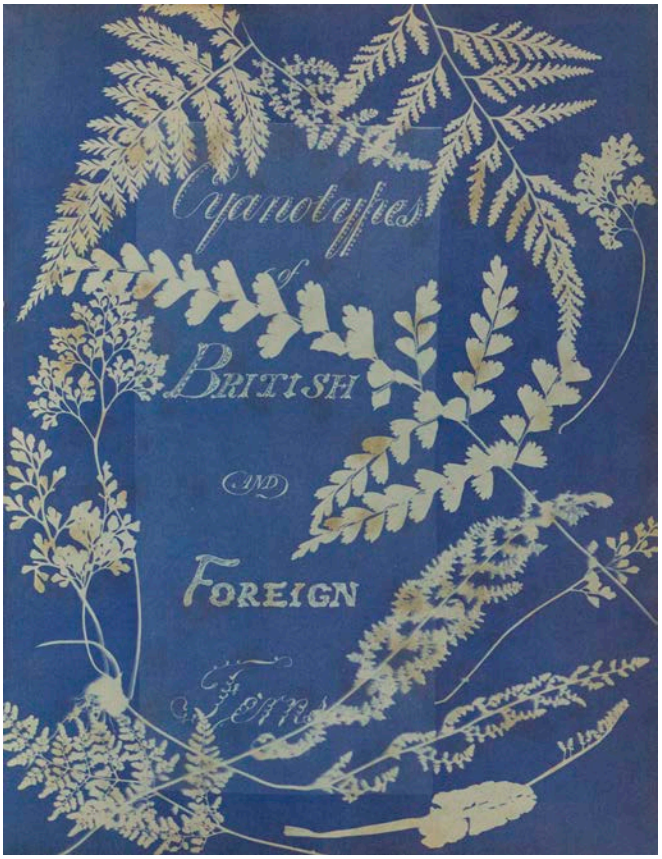


Figure 8
Anna Atkins.
Laminaria saccharina, ca 1843
Cyanotype
25.5 x 20 cm

Figure 9
Anna Atkins
Section title page from *Cyanotypes of British and Foreign ferns*, 1854
35.5 x 24.7 cm

Figure 10
Mark Dion
Neukom Vivarium, 2006
Mixed-media installation, greenhouse structure, Installation view
80 feet long

2001), reflecting the cycle of beginnings and endings and the interchange between the Earth and humans. Mann travelled to Alabama, Mississippi and Louisiana to make *Deep South*, exploring her ancestral roots in a part of the world troubled by histories of slavery, inequality and abuse. This body of work is an introverted project of self-reflection that touches on issues of racial abuse, Mann's own shame and culpability and the possibility of redemption. For these evocative works Mann slowed down the wet collodion[10] photographic process using a large-format analogue camera. The laborious task of mixing and coating wet plates had to take place in darkness, as had loading the camera's dark slides, and Mann set up a makeshift mobile darkroom in the back of her station wagon for this. Once the glass plates that become the negative are coated, the exposure must be made quickly, while the glass is still damp. Mann's 19th century predecessors, working with the collodion process, chose it for its clarity, deep depth of field and grainless surface (Ravenal, 2010), but Mann returned to this archaic process for its "perfect flaws" (Ravenal, 2010: 5). She saw it as a collaboration between herself and what the complex process had to offer. This process creates a feeling that something else is imprinted on the film, not just what is in front of the camera, "something unseen that animates and warps the surface of the known world" (Ravenal, 2010: 1).

I am interested in this work because of its sense of ritual in the slow, laborious, haptic way the work is made and because Mann exposes a human/earth/plant/body connection.

In *Untitled (Scarred tree)* (1998) (Fig. 11), Mann directs her camera at a tree bearing a scar caused by the presence of a human body, where someone was likely lynched. The human body is no longer present, but the person or persons may have died at that site. Blood was certainly spilled, absorbed by the land, and the tree remembers and bears the scar on its bark, evoking human skin. Skin is also referenced by the fragility of the imperfect collodion emulsion that sits like a thin skin on the surface of the fragile glass. It feels almost as though one could peel the emulsion off the glass substrate to reveal something bodily beneath, a scar like that on the tree. The photograph here mimics the materiality of human skin and plant skin, connecting the plant body to the human body and implying a visceral connection through the photographic emulsion's skin-like materiality. The land remembers, plants remember and photography remembers. The slow, caring way in which

Figure 11
Sally Mann.
Deep South, Untitled (Scarred Tree), 1998
Gelatin silver enlargement print
Size unknown

Figure 12
Sally Mann.
Deep South # 5, 1998.
Gelatin silver enlargement print, toned with tea
122 x 96.5 cm

Figure 13
Robert Mapplethorpe
Lily, 1984
Size unknown

Figure 14
Sally Mann.
Untitled, 2000-2001.
Gelatin silver enlargement prints from 8 x 10-in collodion wet-plate negatives
76.2 x 101.6 cm

10. Collodion or wet plates are negatives or positives produced on glass. The process was invented in 1848 by the Englishman, Frederick Scott Archer (Baldwin, 1991: 8 & 27).

the photographs are made speaks to me not only of memory but also of grief and remorse – after all, a scar covers a wound.

A different kind of covering is evident in *Deep South #5* (1998) (Fig. 12). The large rock-like shape in the foreground is in fact a human burial site: in oppressively hot summers it is customary in this part of the world to pour concrete over bodies to prevent rapid decomposition. The body does not return to the soil but is entombed above the earth, but the earth and grasses grow around the organic shape, nestling it. The rock body does not appear hard in the image, perhaps because the print is toned with tea, resulting in a warm, flesh-like colour. I find it interesting here that Mann chose plant material to tone her print over commercially bought chemical toner. This accentuates the plant and human body connection, bringing plant material into contact with the photographic print of a human tomb and forming part of the photographic work.

The connection between plant and human body is even more apparent in Mann's *Body farm* (2000–2001), for which she visited a Tennessee body farm, where scientists study how human bodies decay in varying conditions, to photograph bodies as they decomposed (Fig. 14). Mann made these photographs on a large-format camera with wet-plate collodion negatives varnished with soluvar matte varnish mixed with diatomaceous earth (Ravenal, 2010) and then printed on photographic paper. The works are initially shocking and quite disturbing, as we do not typically see human bodies decaying or leave bodies where they fall. Depending on the circumstances of death, a coroner or undertaker is normally called in to deal with such bodies (Bestall, 2021), and the undertaker typically removes the body and grooms it for viewing by loved ones before burial or cremation. The relationship between death and photography is explored later in this document.

I am intrigued by the dead bodies' relationship with earth, both materially and conceptually, in *Body farm*. As the body returns to the earth it seems to be becoming one with it. Mann's initial photographic premise was "What does the earth do to a dead body?", but a few months later, after an armed fugitive committed suicide on her property, her question changed to "What does a dead body do to the earth?" (in Ravenal, 2010: 54). This reconsideration of the question demonstrates a shift in awareness from a purely human-centred perspective to one that considers the reciprocal effects of the human and the earth, and the plants that cover it.

A very different example of more-than-human awareness and plants is evident in Naziha Mestaoui's *One heart one tree* (2015) (Fig. 15), which projected virtual forests onto iconic

Figure 15
Naziha Mestaoui
One heart One tree, 2015
Light Installation projected onto the Eifel tower on the eve of COP 2015

Paris landmarks on the eve of the COP21 UN Climate summit, blurring the lines between the natural word, advancing technologies and urban cultural spaces.[11] In this filmic installation digital trees grew in rhythm with a person's heartbeat when they touched their smartphone, which picked up their pulse. The artwork foregrounds the connection between humans and plants, with technology as the bridge. The virtual trees grew as more people connected to the technology and more heartbeats were detected. Viewers essentially watched human connection feed the growth of a virtual forest, reaching maturation with the help of human heartbeats. And with every virtual tree that pulsed to maturity, a physical tree was planted in the real world.

Aloi (2019: xxii) writes that:

> [The] increased presence of plants in contemporary art is a relatively recent phenomenon that can be read in conjunction with the emergence of animals in the gallery space witnessed in the last 30 years. Plants in the gallery space can be interpreted as a symptom of the wrongness characterising human/plant relationships but also as a wakeup call to reappraise this relationship at a time of crisis.

Aloi (2019) alludes here to the environmental crisis, which may lead to the eventual extinction of life on Earth and my research has led me to conclude that the human/

11. *One heart one tree* (2015) was conceptualised as a global project that began in Paris, but Mestaoui sadly passed away in 2020 before the project could be fully realised.

12 . "Reciprocity" is applicable not just to the relationship between plants and humans, but also to photography, where it refers to the balancing of light. Balance here is understood as the appropriate amount of light required to achieve the desired exposure and photograph. Light is balanced via the aperture and shutter speed in relation to the sensitivity of the sensor or film when making a photograph with a camera. When one aspect shifts, like the aperture, so one of the others has to compensate.

13. Wall Kimmerer, is a US botany professor who works with her own First Nations indigenous plant knowledge, combining it with western scientific knowledges of the university environment. She is also a mother and teacher and all of these roles play a vital part in her personal and professional life.

Figure 16
Willem Boshoff
Earth Signal, 2014
160 large bags of firewood, 50 bales of straw, 1 drum of diesel fuel, 110 litres of fire gel, lime/chalk
40 metres X 5.9 metres

Figure 17
Willem Boshoff
Earth Signal, 2014
160 large bags of firewood, 50 bales of straw, 1 drum of diesel fuel, 110 litres of fire gel, lime/chalk
40 metres X 5.9 metres

planet/plant disconnection has contributed to the environmental crisis. The reciprocal relationship between the earth and humans has been damaged, and humans now seem to take more than they give back. I see this in all aspects of life – in excessive mining, deforestation, single-use plastics, over-fishing, pollution and many other daily forms of a lack of care for the environment. While some people do not see themselves as part of a reciprocal system with other beings on the planet, it is difficult for me to see a way out of the rapid, global climate change crisis without making extreme changes on an individual level, including in the field of photography.[12]

Reciprocity also appears regularly in Botany professor Robin Wall Kimmerer's[13] book *Braiding sweetgrass* (2013), where it refers to a balance between all life on Earth. The premise in Kimmerer's book is that if humans engage in reciprocal relationships with the Earth and each other, all will exist in harmony and health. While this may seem somewhat idealistic, reciprocity is worth consideration, as it implies mutual care between humans and the Earth and between humans of different backgrounds and heritage. Reciprocity therefore also engages socio-political concerns.

On a field trip, Kimmerer asked her students if they loved the Earth; they responded unanimously that they did (2013). When she asked if the Earth loved them back, they were uncertain and did not respond affirmatively. She concluded that her students – and people in general – have an "unrequited love of nature" (2013: 126).

This made me think of the work *Earth signal* (2014) (Figs. 16 & 17) made by Willem Boshoff and students in the Karoo. When Boshoff asked his students what message they thought the Earth would like to give them, they said "Piss off". They created that text in the landscape out of wood, then set it alight and photographed it at night. A message projected from Earth towards the heavens reflecting the shame and guilt these young artists felt. Because how could the Earth love them back when we do it such harm? Ironically, the project could be seen to have done harm to the Earth via the fire the students made to express themselves. The work can therefore also be thought of as another example of human-centredness.

Kimmerer, however, writes of reciprocity and the importance of understanding and acting on it to encourage healing – not just of the planet, but of humanity. To heal – in this case, an environmental crisis – we must acknowledge what the Earth gives humans and we must restore the

relationship between people and the Earth. Asked for a solution to restore the people/Earth relationship, Kimmerer (2013: 126) writes:

> People often ask me what one thing I would recommend to restore relationship between land and people. My answer is almost always "Plant a garden." It's good for the health of the earth and it's good for the health of the people. A garden is a nursery for nurturing connection, the soil for cultivation of practical reverence. And its power goes far beyond the garden gate – once you develop a relationship with a little patch of earth, it becomes a seed itself.

Figure 18
Svea Josephy accessing the site, 2021

Figure 19
Earth Politics class, 2021

Figure 20
Phytogram and anthrotype workshop, 2021

14. The sale of alcohol was not permitted in South Africa during this time, so vodka in the recipe was replaced with 80% alcohol content in the form of ProNature hand sanitiser.

The Sustainable Photographic Garden at Michaelis

In 2021 I and other members of the photographic section of the University of Cape Town planted a sustainable photographic garden. Staff in the photographic section had made previous attempts at environmentally friendly practices (darkroom grey-water recycling, fixative-silver recycling, bins for recycling) and small garden interventions. Now we attempted the sustainable darkroom at a larger scale as part of an "Earth Politics" module I had been teaching to second-year photography students since 2017, which explores the environment and photography's relationship with it. In previous years students had participated in beach clean-ups, urban and nature walks and had made work from waste and their experience with waste and the environment. Because of Covid 19 safety concerns in 2020 and 2021 I reframed this project to take place on campus rather than in the broader environment. I had also noticed that the project negatively affected my students' mental states, with many experiencing an overwhelming sense of doom, melancholy and despair as they researched and understood the severity of the global environmental crisis. Some became immobilised by fear. With the onset of Covid I knew that several students were suffering with even greater mental health problems brought on by the pandemic, and I needed a way for students to engage proactively and productively with this serious topic. I wanted to build optimism and hope into the project.

I also decided to do my MFA at this time. Covid-19 and South Africa's hard lockdown slowed time for me and restricted space. We had no access to the university and darkroom space, and I began experimenting with household darkroom chemicals in my kitchen using *The darkroom cookbook* (Anchell, 2016) as I pondered my place and feelings in the shared global crisis.

This was not my first encounter with alternative processes and darkroom recipes, having made cyanotypes as a student. In the 2000s my colleagues Jean Brundrit, Svea Josephy, Adrienne van Eeden and Nicky Cooper and I had formed a group informally called the "photo nerds", formally *The League of Ahistoric Anachronistic Photographers Specialising in Archaic and Obsolete Processes*. This slightly ridiculous name pointed to the absurdity of making photographs with historic processes in the decade of a complete digital photograph revolution. We held an exhibition of our work at the AVA in Cape Town in 2008 in which I exhibited Family heirloom (mentioned previously in relation to mending).

On my kitchen table I tried recipes to make photographic emulsions from plant material, vitamin C and hand sanitiser.[14] I came across the work of the Sustainable Darkroom and the Northern Sustainable Darkroom, based in London and Leeds respectively. These organisations are focussed on sharing, researching and promoting alternative, sustainable and environmentally positive photographic practices. As part of their program, they have established a photographic garden residency in Leeds to research the use of plant material in photographic practices. As travel restrictions and family commitments ruled this out for me, we instead ramped up our own sustainable photographic garden at UCT to support my research and to become a communal teaching resource.

The garden is centred around the development of environmentally friendly, sustainable and conscious photographic practices and is intended to foster a reciprocal relationship between human and plant participants. Photographic practices (particularly traditional darkroom practices) are historically and generally environmentally destructive. Our photographic garden is used to seek out ways to be less environmentally damaging using plant materials and everyday kitchen chemistry that is non-toxic and not harmful.

It is also, very importantly, a communal teaching space that aims to move beyond the material, investigating context and site, and to develop and nurture both human and plant relationships. It is a place for planting seeds.

How to grow a garden: Choosing a location and considering site and context

A garden requires labour and care to grow and thrive, but there is more to it than that. First, a site must be chosen. We chose a neglected piece of ground outside the Rosedale building, facing Orange Street (Fig. 18). Other parts of the campus appear professionally landscaped and planted, but this site had been ignored and looked in need of care. The site has sufficient sunlight and is close to the photographic building and the darkrooms, and we hoped to use our waste water to irrigate the garden. We did not seek permission to

Figure 21
Earth Poitics class, 2022

Figure 22
Earth Politics class, 2022

cultivate this small section of ignored earth, certain that bureaucracy would slow us down or deny us. Our garden is thus a form of "guerrilla gardening".

Our humble sustainable photographic garden is located in a suburb today called Gardens, on land once part of the Company's Gardens. The vegetable gardens were planted by employees and slaves of the Dutch East India Company (the *Verenigde Oostindische Compagnie*, or VOC) in 1652 at the onset of Dutch colonisation of the Cape. The Dutch initially colonised the Cape because the Gardens provided ships with fresh fruit and vegetables on the long sea voyage to the east. One of the buildings on our campus, a short distance away from our garden, was used at this time to house slaves who worked in the Company's Gardens.

Reflections on this particular site led my supervisor Svea Josephy and I to co-author a paper entitled "Sowing the seeds of an unsettled garden" (2022), published by the Sustainable Darkroom in *Re Source* (2022). The article's aim was to "'write back' to empire from the Global South, from the margin to the centre" (Josephy & Cowling, 2022: 133), and to move beyond:

> [the] narrow focus on materiality and process that is foregrounded in much writing about sustainable darkroom practice, to excavate what it might mean to create a "Southern Sustainable Darkroom". Here we are interested in *unsettling* this space, in order to draw out the complex knot of connection through empire and decolonization, that goes beyond environmental darkroom practice.

In this article we reflected on our local context, its politics and what makes our garden *particular*.

Gardens in general, and our garden in particular, cannot be "innocent places untouched by history" (Baderoon, 2017: 20). As Josephy and I write, "The site specificity of this ground, *this land*, is significant: the ground is haunted by pre-colonial indigenous people, slaves, settlers and the many other beings who have walked here before us" (Josephy & Cowling, 2022: 135). We are conscious that "[t]he site of our sustainable darkroom garden is troubled with histories of displacement, slavery, colonialism and apartheid. These issues colour both the sustainable darkroom garden and the plants that grow on it" (Josephy & Cowling, 2022: 135). These histories are present as we turn the soil and tend the garden.

Preparing the soil and doing the groundwork

After locating a site, the next step in planting a garden is to prepare the soil, to do the groundwork. While preparing the soil in our garden, we found shards of Delft pottery and even a whole ink pot. We also found plastic, heroin syringes, polystyrene and rubber, which

Figure 23
Indigenous plants, phase two planting, 2022

Figure 24
Washing prints in the garden, 2021

Figure 25
Xolani Mayekiso watering the garden, 2021

we removed. But this is not an archaeological site, and we are more interested in what we put back than what we take out. In putting things in (labour in the form of digging, overturning, stirring and adding compost and earthworms) we were doing the "groundwork", of which Gabeba Baderoon (2017: 62) writes:

> A finished landscape like a garden takes time and work. We call it groundwork. Someone has to do the groundwork, we say. The legwork, the preparation, clearing the ground. A metaphor that refers to the earth, the world, the soil, what lies beneath it. But also the labour of doing the early work of building something. It gains its force from the heavy, immovable earth, requiring labour – committed, long-term, unglamourous, invisible and necessary. Such labour is never forgotten by those who carry it out. For the poet Rustum Kozain, who named his website by this word, groundwork is reading and writing. I've thought, written, made food and ultimately reached through it, into the ground, the first cleared ground, a garden.

Preparing the soil for seeds and plants was a very labour-intensive process that required the work of many caring hands, as conditions were not ideal and the earth had been long neglected. Although planting the garden was part of a teaching module, the "groundwork" of planting was not compulsory. Staff and volunteers did the groundwork and students arrived on the day to plant, but it may have been a mistake not to get the students involved with the earlier preparation. Students were initially clumsy and unsure, reluctant to dirty their trainers, but soon most became involved and appeared to enjoy it. There was much talk of joining the WhatsApp garden group, and some did, but the ongoing care of the garden has been done by staff, not students. On reflection we thought this might be because students pass through the institution and are less committed to it, but on reading Baderoon I wonder if it is because they did not do the groundwork. Groundwork is vital and connects us to the past, present and future: "I know the groundwork of a garden is the present and it is the deep past. The work of gardening, of clearing ground and making soil, is to envision a future that may never come to fruition" (Baderoon, 2017: 63). Baderoon (2017: 62, 63) also writes throughout her text that "a garden remembers", evoking the idea of a photograph, but perhaps unfixed and changing.

Choosing the plants: alien vs indigenous

We watered and washed our photographs in the garden and cared for the garden throughout, but it barely survived the scorching summer's high temperatures and brutal southeaster wind (Figs. 24 & 25). As a result, we

replanted the sustainable photographic garden with waterwise indigenous plants in early January 2022, saving what little remained of the previous garden.

Changing to an indigenous garden enabled exprimentation and research into how plant material in South Africa differs from that in the Global North, where other sustainable darkrooms are located. Our local floristic kingdom, *Capensis*, is the smallest floral kingdom in the world but is also the most biodiverse. A second phase of the garden was planted in August 2022 with the help of our growing garden community and the new intake of second-year photography students (Figs. 21 & 22). The garden was extended, doubling its size, and we planted a wider variety of plants, as well as species that we had learned from the initial garden did well in this area. Extending the garden allowed for more sustainable harvesting and gave the next second-year earth politics class the opportunity to work with the garden, planting spekboom[15] prepared for them the year before by their peers. The idea of sustainability has thus carried through from year to year.

To thrive, gardens, including the photographic garden at UCT, require care and nurture for a sustained period of time. Unlike the domestic garden, however, the garden at Michaelis requires care from a larger community, because the space is not continuously occupied by one person. Colleagues, friends, family, students and I provide the communal care it needs, and in return we receive materials with which to work and a space in which to commune – to talk, share stories and learn. I have shared many stories here with Svea Josephy, Sitaara Stodel, Fortune Ngwenya, Rob Keith and Xolani Mayekiso, some personal, some simple garden anecdotes. One of my many favourite conversations has been with Xolani Mayekiso, a security guard at Michaelis, who noticed the garden was in need of water when the rest of us were away and became part of the garden community through his care. So began many conversations while watering, tilling and planting.[16] I have learned about gardening and so much more from this community. I have learned that our garden is a gentle space where relationships are cultivated and friendships grow. We have cared for the garden, and in return the garden has cared for us.

The above may seem overly idealistic. It is true that our small garden community has received much pleasure from this space, but the idea of the garden remembering allows me to reflect on what it might remember: not just the recent past of nurture and care but a deep historical wound. Gabeba Baderoon's garden in Athlone reminds her of her forced removal from the fertile soils of District Six to the dry, acidic soil of Athlone, which needed to be worked. Like our parched, humble piece of earth at the back of Rosedale, the land is not innocent and cannot forget. The past is brought into the present, where ideas about the land in South Africa complicate environmental projects. While people of diverse races and cultures volunteer to work this land together, not all have equal access to it or to the land in general. Neither do the people living on Orange Street looking in at the garden who are not permitted to enter. The University of Cape Town remains a place of privilege, and access to this land – and by extension to other land – remains in the hands of a few. We did not seek permission to grow this garden, certain that the institution would not give it, but my privilege allowed me access to this land.

The slow, haptic, cameraless photograph

I am interested in the beginning, the origins of photography, when the first photographs were made without cameras (Barnes, 2012). It takes time to grow a garden, and it takes time to make a cameraless[17] photograph – at least more time than the relatively quick click of a shutter in an SLR camera. One usually has to get one's hands dirty with both the garden and the cameraless photograph.

Cameraless photographs are made through direct contact with the world and a light-sensitive surface, such as photographic paper or film, and are now generally known as photograms. Batchen writes that "[S]uch photographs therefore reduce photography to its most essential feature: the reaction of a given surface to the absence and presence of light" (2016: 5). In a photogram an object is placed on a light-sensitive surface, resulting in images that appear flat, pushing up against the picture frame, while also receding. Part shadow, part inversion; part negative, part positive, cameraless photographs can appear to emit their own light and to emanate rather than replicate (Batchen, 2016). The cameraless photograph provides an "indexical truth to presence, even if not necessarily a truth to appearance" (Batchen, 2016: 9). It tells us "that something was there, but not exactly what it looked like" (Batchen, 2016: 9). While it could be argued that this is also true for photographs made with

Figure 26
Gary Fabian Miller
Bramble Cross(i), Hayne Down, Spring, 2011
Dye Destruction Print
44,5 x 36,8 cm

15. Spekboom, translated from Afrikaans is "Bacon Tree". This indigenous succulent It is considered a miracle plant for numerous reasons. It fixes carbon in the atmosphere into the soil at an enormous rate, 10 times that of a tropical rainforest. The leaves are edible and medicinal.

16. We learnt our recent ancestors (maternal) come from the same small community in the Eastern Cape, Keiskammahoek. In our garden he told me of the sacred plants of corn and tobacco used in traditional Xhosa ceremonies. I had read, via Gagliano and Kimmerer of both these plants sacredness in Northern Hemisphere indigenous cultures and was interested to learn of this reverence for the same plants in Mayekiso's Xhosa culture here. I have also heard about "weeds" that are edible from Rob Keith, a drama department employee and Fortune Ngwenya has taught me much from his permaculture experience.

17. I write cameraless after Batchen's (2016) spelling; Barnes (2012) writes "camera-less".

cameras, it is more so with cameraless photographs, because the objects that touch the light-sensitive surface leave an unpredictable and varied chemical trace.

To further my critical investigation into cameraless photography I explored Martin Barnes' text in *Shadow catchers: Camera-less photography* (2012), the extensive historical account of cameraless photography in Geoffrey Batchens' *Emanations: The art of the cameraless photograph* (2016) and David Campany's *A handful of dust: From the cosmic to the domestic* (2017).

Martin Barnes (2012: 8) writes that "The essence of photography lies in its seemingly magical ability to fix shadows on light-sensitive surfaces. Removing the camera enforces a direct, powerful and almost alchemical transformation at the point where light and chemistry interact, leaving the memory of enigmatic forms", what Campany (2017: 32) calls "seeing touch", or making touch, the haptic, visible. I am interested in these memories and the material trace or residue left behind and in the idea that cameraless photographs are consequently less visually realistic in the traditional photographic sense but are more "truthful" because of their tactile connection to their subject.

Barnes tracks the use of cameraless photography from photography's invention in the 1830s and its resurgence in the 1920s through the likes of Man Ray and other Surrealist photographers in Europe to contemporary art practitioners, exploring the work of five international artists working in the cameraless genre: Gary Fabian Miller (Fig. 26), Susan Derges (Fig. 27), Pierre Cordier (Fig. 28), Floris Neusüss (Fig. 29) and Adam Fuss (Fig. 30). Barnes (2012: 21) claims that the return to cameraless photography is a result of:

> A nostalgia for the chemical appeal of vanishing, alternative chemical-based processes; at the same time, these processes are being liberated yet further from their mimetic and descriptive functions to be reborn in radically modern ways. They offer an exciting, back-to-basics language that seems refreshing and surprising, yet they are also able to draw on a distinguished heritage stretching back to the first photographs.

Barnes selected these artists because they work primarily and almost exclusively with cameraless photography and had experimented with this form for many years. They also transcended the "potential danger of

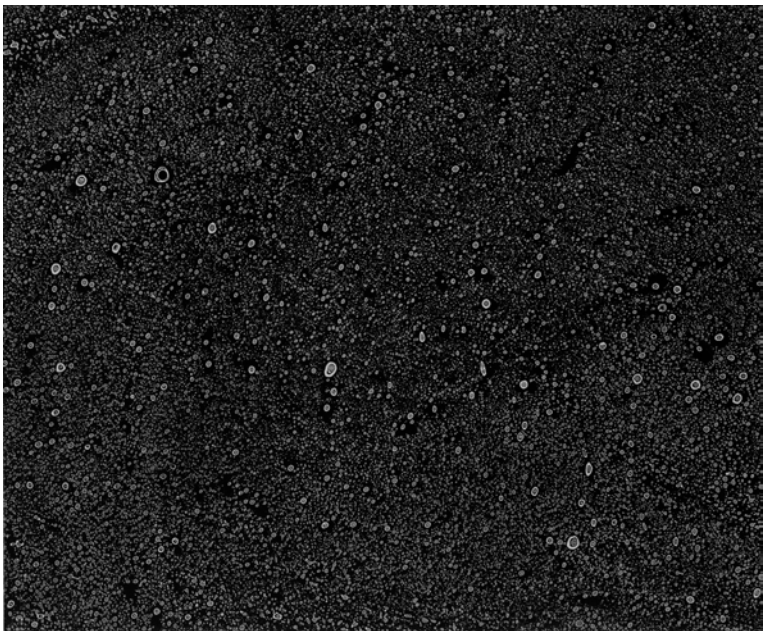


Fig 28
Pierre Cordier
Chemigram 24/8/61 III 'Big Bangram', 1961
Chemigram
24,1 x 29,1 cm

Fig 29 (right)
Floris Neusüss
Untitled (Korperfotogramm, Berlin), 1962
Gelatin-silver print
250 x 65 cm

Fig 27 (left)
Susan Derges
Arch 3 (spring), 2007-08
Digital C- print
220 x 150 cm

the decorative effects inherent in much camera-less imagery with a deep understanding of its creative possibilities" (Barnes, 2012: 8).

It is my intention to critically engage my subject matter and to draw similarities between the earliest cameraless photographs, such as Talbot's photograms and Atkins' cyanotypes (Figs. 7- 9), while moving away from some of the problems this early work promotes in terms of ownership and classification. This is explored further in Section two.

Batchen (2016) makes note of Alison Rossiter, another important artist working in the cameraless genre, because she has in many ways redefined the genre beyond the use of photograms. Rossiter creates "landscapes", abstractions and images of the heavens without a referent, but as viewers we produce or imagine one. Rossiter works with expired and vintage photographic papers and chemicals in the darkroom to produce the idea of a landscape, using horizon lines and tone to construct a landscape where none exists. The idea of the camera remains, even in these cameraless photographs (Fig. 31).

Campany (2017) tracks the inception and movement of *Dust Breeding* (Fig. 32), attributed to Marcel Duchamp and Man Ray. The photograph was taken in 1920, when Man Ray was visiting Duchamp's studio. Duchamp had left a large piece of glass on the studio floor to collect dust and mark the passing of time, and Man Ray suggested that he photograph it. Following the importance and subsequent showing of this work in various exhibitions and publications from the early 1920s to today, Campany (2017: 29) writes:

> Contemporary photographic artists seem to prefer the stoicism of the lens and the enigmas of the light-sensitive surface to the ecstasy or trauma of the quick shutter. That seems to be what this now relatively slow medium is for them, and it would certainly point to the renewed interest in an image as slow and temporally complex as *Dust Breeding*.

Campany (2017: 28–29) continues:

> The camera is made up of what we might think of as three distinct parts (mediums even): the lens, the shutter and the light-sensitive surface. When theories privilege the lens it is usually in relation to the depiction of space and the conventions of realism determined by linear perspective and optics. Here

Figure 30
Adam Fuss
From the series *My Ghost*, 1999
Gelatin silver print
134,6 x 113 cm

Figure 31
Alison Rossiter
Defender Argo, expired September 1911, processed 2014, (#6), 2014
Unique silver gelatin print
12.70 x 17.78 cm

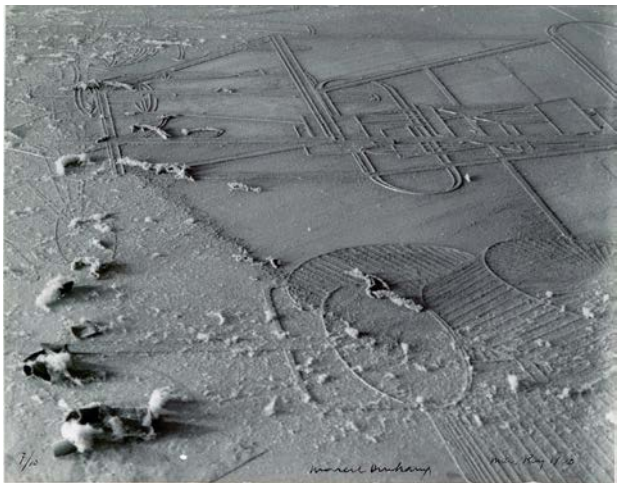


Figure 32
Man Ray/Marcel Duchamp
Élevage de poussièr (Dust Breeding), 1920
Size unknown

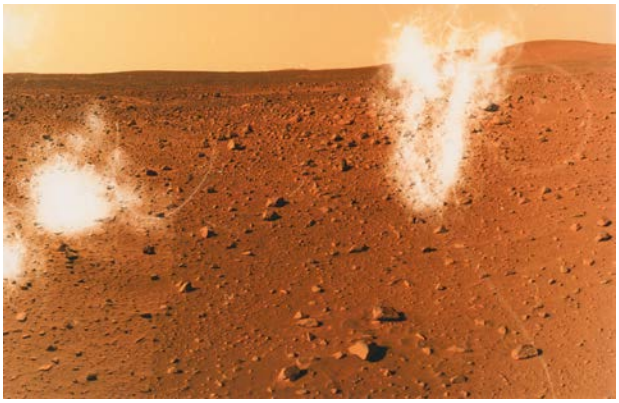


Figure 33
Eva Stenram
Per Pulverem Ad Astra, 2007
34 x 23 cm

> we are in the realm of resemblance and iconicity, where the origin and essence of photography are located in the camera obscura. When the shutter is invoked it is in relation to time and duration, and photography's origins and essence are located in the desire for arrested vision. When the light-sensitive surface is invoked it is usually in relation to the question of contact and touch, locating origin and essence in the shadow or trace.

We lose the "conventions of realism" and "arrested vision" if the camera is removed, leaving us only with the ideas of contact and touch and a consideration of shadow and trace.

Camera photography has a vantage point. The photographer stands at a certain distance from the subject, with a lens of a particular focal length. When I know the vantage point and lens, I can understand the picture better. Proximity to subject affects my understanding of the image; I know that Man Ray was close to the dusted glass from the evidence of the photograph. In *Dust breeding* I see a surface touched by dust over time, a tactile representation of time passing. Without knowing the process (the when, where and how), there is a sense of mystery in the work, and without context it could be read as an aerial photograph.

The title of Campany's book *A handful of dust: From the cosmic to the domestic*, alludes to the complexity and importance of this work and its reliance on trace and touch. I am fascinated by *Dust Breeding*, as, like my work, it underscores the idea of extreme proximity and infinite distance.

This contrast is also highlighted in the work of Eva Stenram's series P*er pulverem ad astra* (2007) (Fig. 33), which uses the collection of dust as a signifier of the passing of time. It also expands on ideas of space and proximity hinted at in *Dust Breeding*. Stenram downloaded high-resolution images of Mars from the NASA website and rephotographed them on film, allowing dust to collect on them before printing (Campany, 2017). Stenram says of the work: "The resulting marked image is a combination of extreme distance and extreme proximity, a simultaneous gravitational pull towards the earth, to the dust around – and by extension, towards death – *and* a pull upwards into space, away from the earth, towards the abstraction,

both physical and fantastical, of Mars" (in Campany, 2017: 34).

Joan Fontcuberta works in a similar way, specifically in his *Constellations* series (1993) (Fig. 34), in which we see what appear to be constellations, the night sky with all its blackness punctuated by shooting stars and nebulae. Fontcuberta asks us to look to the night sky and "back to ancient myths that see the heavens as precisely that – a place of divine creativity and presence, the origins of all life on Earth" (Batchen, 2016: 40). In fact, the work comprises cameraless photographs taken of his car windscreen, specifically of the insect and other non-human bodies left there. Extreme proximity is again imagined as extreme distance.

Campany writes that of "all the senses, it is sight and touch that are the most entwined, and photography plays upon this" (2017: 32). Campany continues that "Photographs evoke a 'visual tactility' through the projective imagination of the viewer. All this happens because the light-sensitive surface is somehow touched by the light bouncing off that which is photographed" (2017: 32–33). All photographs, including those made with cameras, are thus in a loose sense haptic, made through some form of touch. Light bounces off the subject and enters the camera through the lens and shutter and then touches the sensor or film. Jacques Derrida (in Campany 2017: 33) notes the paradox of camera-made photographs, that "the image is indexical (a trace) and yet the separation forced by the lens means it never was in real contact with anything material. Strictly speaking, in photography there is no touch. The lens or aperture is an abyss traversed by intangible light."

The imagined visual tactility Campany refers to is a result of the proximity and intimacy we may have with how photographs are made if the subject photographed is in "touching distance" (2017: 33). This tactility is also present if the photographs are printed and handled. But what happens to our sense of touch when we look at a photograph on a screen? We feel the cool glass below our fingers, the metal or plastic of the device in our hands. Viewing digital images usually involves touch as much as, if not more than, viewing analogue photographs.

The digital image can also represent an intimate viewing experience as I hold the screen in my hands. I tend to view it briefly, however, before swiping it away, and one might argue that in that speed the imagined touch slips away. In the time of the Covid-19 pandemic, when

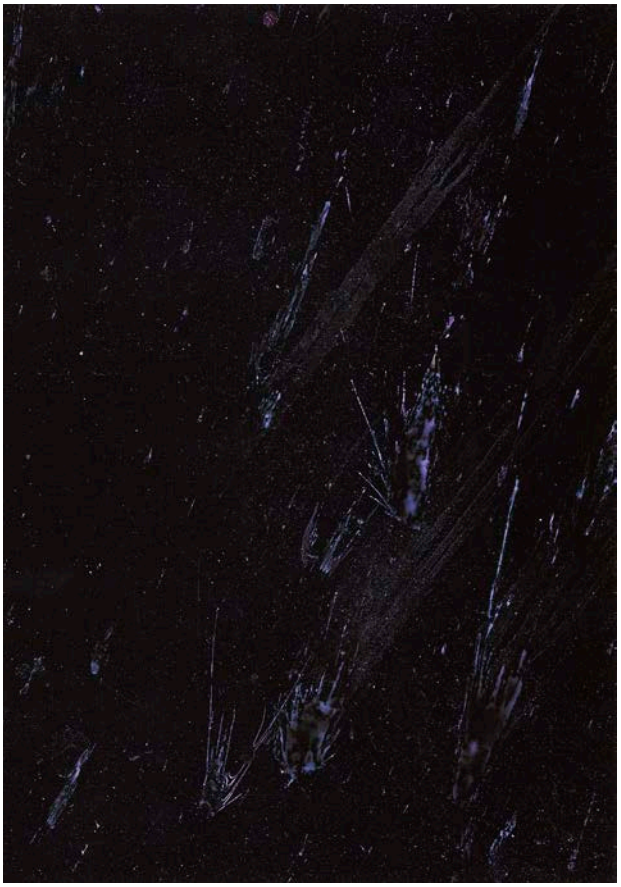


Fig 34
Joan Fontcuberta
"MN 77: CETUS (NGC 1068) AR 02 h. 42,7 min. / D -00º 01'" from the *Constellation series,* 1993
Size unknown

18. I acknowledge here that all material trace is "late" and all cultural artefacts memorialise this "lateness", including painting. With photography, it's manifest connection to a referent, usually seen as its subject, is what is at stake. Painting, even if it is realistic, mimetic, is commonly understood as invention rather than emanation (of the referent).

Figure 35
Joel Meyerowitz.
The base of the North Tower, looking east, toward the Woolworth Building, 2001
Size unknown

humans were deprived of touch, digital photography accentuated coolness and distance. In most digital (and analogue) photographs taken with a camera, light must travel from the subject through the lens and camera body to a light-sensitive surface. In cameraless photography the object touches the light-sensitive surface directly; the subject touches the paper. The unconscious need for intimacy and connection materialised for me through the process of touch as I made cameraless photographs.

Cameraless photography offers a slow, thoughtful alternative way to make photographs in a world that seems to be moving too quickly. In my daily life I am bombarded with images that move rapidly in and out of view – on the Internet, Instagram, Snapchat, Twitter and more. Between the increasing speed of visual media and a world in environmental crisis, it is not surprising that there is a contemporary photography movement about slowing photography down. According to Campany (2007: 12) "Where photography singles itself out in contemporary art is that it embraces not the moment but the slower rhythms of observation and premeditation." Some contemporary photography resists speed, and there is a growing interest in the stillness of producing and viewing an image slowly. As Campany reiterates in an article about Lewis Baltz, "Only slowness can counter speed. Only the mindful can challenge the mindless" (2015: online). While the work of Baltz and other members of the "slow photography" movement look nothing like mine, there is a commonality in "looking closely" and taking the time to "observe with great patience" (Campany, 2015: online).

Campany has added a few important concepts to contemporary photography's consideration of time, including "slow photography" (2015) and "late photography" (2003). Discussing Joel Meyerowitz's work (Fig. 35), Campany uses the term "late photography" to describe the difference between the moving image and still photography, where photography functions as memorial. Campany (2003: online) writes that:

> One might easily surmise that photography has of late inherited a major role as an undertaker, summariser or accountant. It turns up late, wanders through the places where things have happened, totting up the effects of the world's activity. This is a kind of photograph that foregoes the representation of events in progress and so cedes them to other media. As a result it is quite different from the spontaneous snapshot and has a different relation to memory and to history.

Kathryn Lloyd (2018: online) elaborates the idea of lateness and photography, writing that "[E]very photograph is symbolic of its own *too lateness*. While the photographic image encapsulates a singular moment, it also evades any continuity of narrative, history or future; it is fundamentally representative of its own passing." Photography is always too late. It represents a singular moment carved from time, but once the photograph has been taken it memorialises the past. Only the resultant object, the material photograph, can exist in present time, evoking a memory of the past and inviting thoughts about the future.[18]

It has been interesting for me to think about the slow, late photographer as a coroner, particularly in relation to this project, which began with the flowers given to my family when my father died. Fast and slow photography are embedded with ideas of death. The photographer, the coroner or undertaker collect images that represent "[their] own passing" (Lloyd, 2018: online), suggesting that every photograph is representative of the past and therefore of death.

I understand this more clearly when considering Mann's images (discussed above). The images made

in the body farm, for example, show a particular stage of decomposition. A photograph taken a week before or a week after would show more or less decay. The photograph is a singular moment frozen in time that can be physically remembered, but not revisited, by looking at the photograph.

Campany refers to the work of Joel Meyerowitz to illustrate the "too lateness" of photography. Meyerowitz photographed the wreckage of the collapsed Twin Towers of the World Trade Center in New York in 2001 with a large 8" x 10" film camera. Arriving in the aftermath, Meyerowitz was too late to photograph the buildings falling and slowly documented the outcome instead.

If photography is always late, slow photography brings more time to the situation: more time to think, to consider, to mourn, to grieve, to apologise. Slow photography then becomes about ritual, and the process of working slowly becomes both meditative and cathartic. Meyerowitz and many "slow" photographers use cumbersome large-format cameras that cannot be used quickly. Making slow photographs at sites of sensitivity also allows time for respect rather than simply shooting, taking, capturing – all violent words associated with photography. The slow, mindful photograph negates the historical violence associated with the fast shutter speed.

Photography and death

I have long pondered photography's connection to death, and I found myself creating a body of work for my MFA that seems centred around death. *Fixing the shadows* began with the death of my father (Fig. 36).

It was useful for me to read what Roland Barthes wrote about photography and death in *Camera lucida* (1984), which was influenced by his mother's death. Barthes accepts his personal relationship to photographs and acknowledges that photographs will be read differently depending on who is looking at them. Within personal anecdotes, however, he continues to search for the essence of photography.

Barthes calls the photographer the "operator" (1984: 9), the person who pushes the button to release the shutter to take the picture. Barthes writes that this "gesture will embalm me" (1984: 14), making the

Figure 36
Vanessa Cowling
Funeral Flowers 2007
Silver gelatin print on fibre paper
37,5 x 25 cm

Fig 37
Amber lee Williams.
Kept in the dark, 2021-2022
44 unique and unfixed anthotypes making up the singular work
Size unknown

"operator" synonymous with Campany's "undertaker" (2003: online).

Barthes also points out photography's certainty on what he calls the "referent" (1984: 9), meaning that when a photograph was "taken", a thing, person or object was definitely in front of the camera (or touching the light-sensitive surface in cameraless photographs). The subject (referent) was there. He writes, "[I]n photography I can never deny that the thing had been there" (Barthes, 1984: 76). The moment, and therefore the person or subject *did* exist then, but may no longer now. The referent (the subject) has been embalmed by the undertaker (the photographer). This refers to Campany's idea of lateness because the photograph memorialises the past.

I also have many photographs of my father – as a baby, at school, on a European trip, with my siblings and I. There is a timeline and a life narrative in these images, but also the inevitable conclusion of death. One of the most poignant photographs of my father is of him lying on our sofa doing a sudoku puzzle, with my six-month-old son lying on his chest. Looking at this and the other photographs of my father, I move back through time. The photograph is "always invisible" (Barthes, 1984: 6), because we look at what it is of and not at the object, the paper itself.

My sister once gave me a drawing she had made of my father before he passed away. It is a lovely pencil drawing, and I recognise my father's features in it and how he held his body. I vaguely remember my sister sketching him from life. A drawing or painting can be made from memory, from a photograph, from life, but the photograph of my father could only be made because he was there. Looking at a drawing or painting after its making, one can never know for certain what its referent was. The photograph exists as a record of the referent in a particular moment, proof they once existed. As I pushed the shutter release button for this beloved photograph of my father sitting unaware in front of me, I became the undertaker, embalming his image and freezing him in time. The photograph is evidence of his existence and is thus more valuable to me than a drawing. I have been asked whether a lock of hair, a voice recording or an x-ray of his body would be as valuable to me as this particular photograph. Such objects might indeed be valuable, but my optical bias is linked also to my presence in having "taken" the photograph. I was there with him, a mutually shared

moment between referent and operator that makes this particular moment valuable to me.

Amber Lee Williams is a contemporary artist who works with plant materials and photography to comment on death. The work *Kept in the dark* (Fig. 37) is comprised of 44 unfixed anthotypes of the same image of her mother (her high school year-book photograph), each representing a year of her short life. The image is repeated, but Williams used different plant emulsions to make each individual image. The result is a poignant, colourful series that speaks of life and loss. Unfixed, the work will fade and disappear unless kept in the dark. Like her mother's life, the work is fleeting.

Alison Rossiter also confronts death in her photographs. Geoffrey Batchen (2016: 47) writes that:

> Rossiter's work conjures duration, rather than a moment from the past. It no longer subjects its viewer to the prick of an anterior future, for Roland Barthes the essence, the punctum of the photographic experience. Rossister's work instead reflects not on the imminent death of the viewer, but on the passing of photography itself.

Rossiter works with very old vintage paper fogged by time, which for traditional use would have already expired – to have "died." Allowing the chemicals to touch certain areas of this "redundant" material and not others, Rossiter creates a landscape from what the "dead" paper has to offer (Fig. 31).

Batchen also writes about Marco Breuer (Fig. 38), who manipulates paper by burning, scouring, folding and striking it. Where Rossister allows for the agency of light and time to influence the results of her work, Breuer more forcibly imposes his agency. Batchen writes of Breuer's photographs that, "[L]ike any other body, they also bear the marks of time, not of a single instant from the past, like most photographs, but rather of a duration of actions that have left accumulated scars" (2016: 46). These "marks of time" are part of the materiality of the photograph, marking not only the life and death of the objects recorded by the photograph but the actual material on which they exist.

Materiality and photography

During a class on materiality and photography in which I was an observer, my supervisor explained materiality in terms of photography. She passed around a selection of found photographs that had been removed from an abandoned photo album bought at the Milnerton market. Students were asked to choose a photograph; some chose consciously, others left it to chance, their hands feeling the photographs handled by past owners, settling on one that felt right and allowing their gaze to settle.

We were asked to describe our chosen photograph without showing it to the rest of the class. Without exception, we described what we saw in the image: a landscape; sunny or overcast; familiar or not; a family gathering; a wedding; the number of people in the photograph. Only when prompted did we engage with what was actually in our hands. Was the photographic surface glossy and smooth or textured and rough? Thin or thick? Fibrous or plastic? Did it have a smell? Was it stained with age? Were its corners turned up from excessive handling? As we handled our photographs, the lecturer suddenly tore the photograph she was holding into four small pieces. Everyone gasped in horror, but she had immediately affirmed the photograph as a material object. Something that could be torn. But what of the gasp? Was it prompted by the destructive act of tearing? Would the response be the same for any artefact? Perhaps the answer lies in the value we place on objects that we deem to have emotional or monetary value. Like other art forms, photography can materialise memory, but what makes it complex and interesting to me is that the photograph emanates from an event, giving it its nostalgic value.

Photography's new materiality? (Plummer et al., 2011) questions whether materiality is new to contemporary photography, arguing that materiality has been with us since photography's inception. Plummer et al. argue that we have lost sight of photography's ever-present materiality because the history of photography has been heavily slanted to technological advances, side-lining and compartmentalising material and conceptual works as "alternative photography". This presents photography as a march of technical progress, marginalising the extensive history of photography that is experimental, conceptual and material.

Photographic materiality and objecthood have been championed in contemporary exhibitions such as *Photographic object* (2009, Photographer's Gallery); *The object of photography* (2009, Stanley and Audrey Burton Gallery); *Shadow catchers* (2010–2011, Victoria and Albert Museum); *Emanations* (2016, The Govett-Brewster

Art Gallery in New Zealand) (Figs. 40 & 41); and Fabric of photography (2021, The Old Fire Station, Oxford) (Fig. 39). These exhibitions all foreground the new (or even old) materiality in contemporary photography.

Plummer et al. asks whether we are seeing a return to materiality and the labour of the artist's hand because of the "death of analogue" (2011: 2) and whether the emphasis on materiality is a "gesture of resistance toward digital dominance as it threatens to squeeze out difference and create homogeneity where once there was variety and difference" (2011: 7).

I have embraced the digital in my practice as a professional photographer, and I use it in my artistic practice where appropriate. Though materiality in the digital age may seem to some critics to be non-physical – or non-material – screens offer new reflections about how we consider and understand materiality in the time of the digital. It is easy to overlook that the screen, like photographic paper, is a material object. The smooth, shiny, touch-screen technology encourages a "haptic gaze" (Plummer et al., 2011: 5) as we look and swipe.

Photography has a rich, complex and ongoing relationship with materiality. What makes it important and useful for me today is how and why I use the materials I do to convey ideas within my context. This will be explained further in Section two of this document.

In the following Section, I explicate my practice and consider how the historical context above is entangled in my practice.

Fig 38
Marco Breuer
Untitled (C-1378), 2013, chromogenic paper, folded, burned, and scraped
50,6 x 42,7 cm

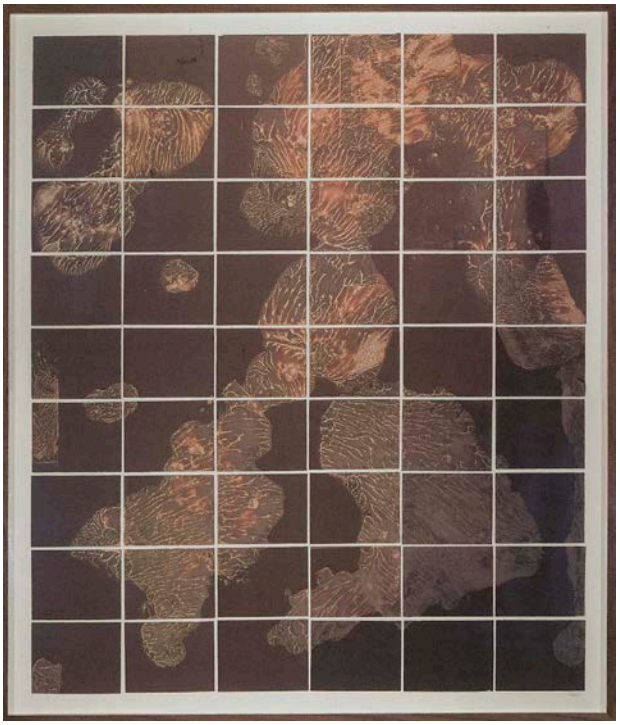


Figure 39
Hannah Fletcher
The Fixation, 2020 , in the *Fabric of Photography* Exhibition
Clay based lumen print fixed at decreasing concentrations and increasing times
120.1 x 101.9 cm

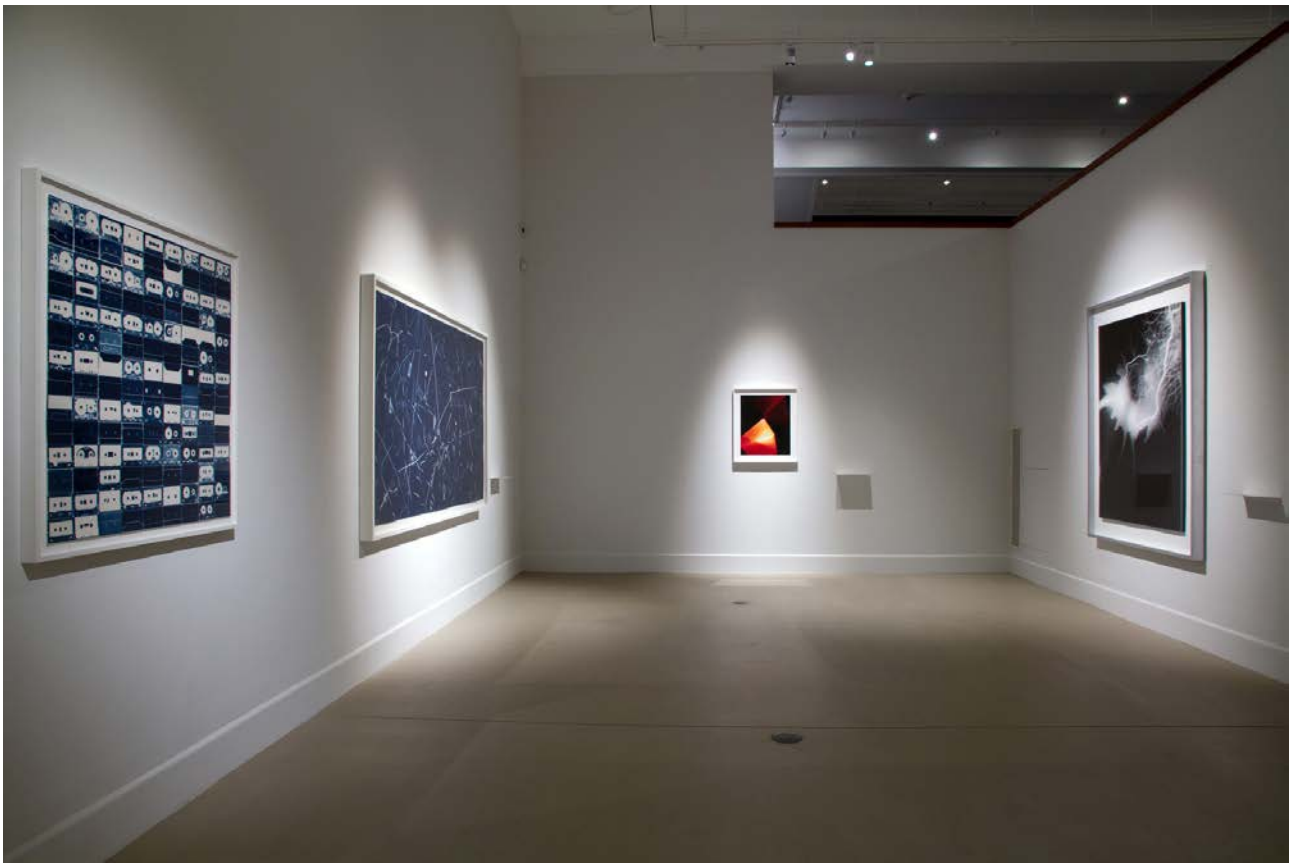


Figure 40
Emanations: The Art of the Cameraless Photograph. Installation view of the exhibition. Work by Christian Marclay on the left and Hiroshi Sugimoto on the right

Figure 41
Hiroshi Sugimoto
Lightning Fields 168, 2009
Silver Gelatin Photograph
Size unknown

Section Two

Explicating my practice

Figure 42
Vanessa Cowling and Sitaara Stodel working in the garden
2022

Figure 43
Vanessa Cowling
Untitled, 2021
4" x 5" phytogram light box

Figure 44
Vanessa Cowling
Untitled (garden), 2021- 2022
Installation view

Figure 45
Vanessa Cowling
Untitled (detail from the Light Installation) , 2022
Phytogram on x-ray film

My practice interweaves mortality, grief, death and new life with an environmental consciousness. Initially a personal, embodied experience initiated by my father's death, the work broadened to environmental concerns that speak about the cyclical nature of life and death, but also of the accelerated death I observe in the environment. That said, I am hopeful for change, regeneration and renewal, and my interventions (including the work I and others have done in the photography garden) signal this. The work is also a reflection on photography itself – its destructive environmental history and its inextricable relationship with memory and death.

In addition to the garden, which I consider to be part of this MFA project, I produced an exhibition comprising several discrete but interlinked and connected works:

1. Several 4" x 5" light boxes.
2. *Untitled (Garden)*: An installation of lumen prints, phytograms and anthotypes covering the gallery wall, immersive in scale.
3. Large- and small-scale lumen and phytogram prints.
4. A light installation of phytograms on negative film, X-ray film and graphic arts film and collodion positives on glass. The installation also incorporates old light projectors, an old slide projector and various-sized light boxes.
5. A small 8,5" x 6,5" collodion positive lightbox.

The exhibition is curated with consideration of the space it occupies and how the various bodies of work connect. The Michaelis Gallery was chosen as the venue because of its proximity to the Sustainable Photographic Garden, the tendrils and roots of the garden conceivably extending through the soil towards the gallery space. The garden is physically lower than the gallery, in a sense grounding the work.

There are several 4" x 5" light boxes in the liminal space as one enters the gallery passageway (Pls. 1 –7). These images are unobtrusive in scale and invite the viewer to look closer at their details. At the end of the passageway, directly in front of the viewer on entering the gallery, a very large landscape-oriented photograph extends for five meters along the wall (Pl. 32 - 33). The design of the gallery space is such that the work cannot be seen in its entirety on entering the gallery. It extends into the adjacent corridor, inviting the viewer to follow the work into the main gallery space.

On the facing wall of the main gallery space is *Untitled (Garden)* (Pl. 8), a large work that fills the entire wall. The work also engages with the spatial boundaries of the gallery itself, beginning close to the ground and extending to the wall's furthest edges.

Large and small phytograms and lumen prints (Pls. 26 - 31) occupy the surrounding walls, though the large (approximately 2 x 1 m) images are small relative to *Untitled (Garden)*. It is hoped that the viewer will first experience the immersion of the very large work and then move closer to experience the details of the smaller works. By curating the space in this way I hope to direct the viewer from moments of immersion to quiet, more still moments of reflection.

On the viewer's way out of the space is the projection room, conceptualised as a "twilight" room, a space between day and night, where several projectors, overhead projectors and light tables project through photographic, ortho, repro and X-ray film (Pls. 34 - 38).

Finally, on exiting the projector room, to exit the gallery, a small 8,5" x 6,5" collodion positive lightbox of the night sky, signals the end of the exhibition (Pl. 39).

Planting an idea

Regardless of their apparent subject, all of these artworks were made with plants. I worked with plants as subjects, sometimes just as they were, sometimes in the processing and material of the photograph and sometimes to create a universe, stars and the cosmos. The plants were harvested from the Sustainable Photographic Garden at UCT and sometimes from my home. I mostly collected fallen leaves and plants but also made works with plants or flowers that were gifted to me, waiting for them to fade past their freshest point before working with them in lumen prints, phytograms and anthotypes.

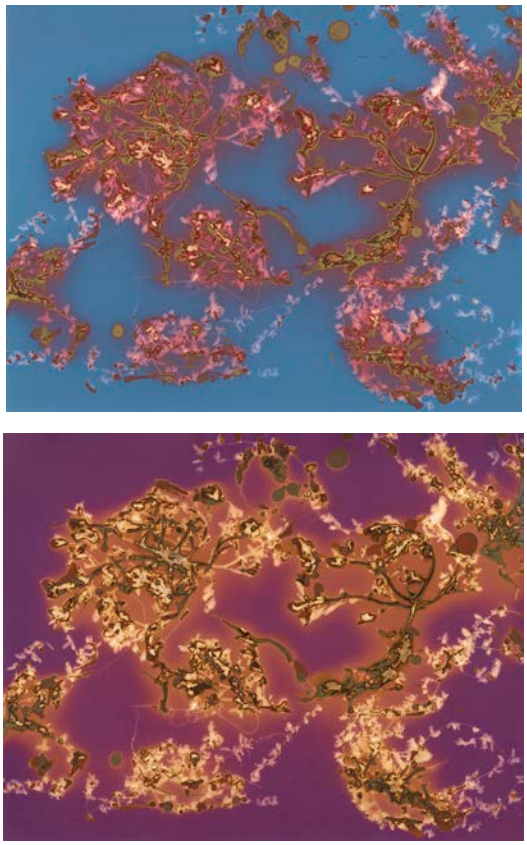
A lumen (meaning light from Latin) (Harper, n.d.: online) print is a direct contact print, like a photogram but with some differences. It is made using fogged, light-sensitive silver gelatine paper, sunlight and an object. Unlike traditional analogue photography, no development is required. The image is only fixed, and the resultant photograph's colour varies enormously according to paper type, paper age, the season, time of day and other environmental factors such as UV count and humidity. Exposure times typically vary from a few minutes to several hours, depending on the density of the object and the intensity of the sun. (By contrast, exposure for a

photogram is relatively quick, a few seconds or minutes at most.) Any object can be placed on the paper to make a lumen print. I work with plants, and the photographic results vary depending on whether the plant is alive, wilting or dead. Once exposure has been made and seen, the traced image is fixed in a bath of sodium thiosulphate, made permanent, changing the colours again[19] (Figs. 46 & 47).

Making phytograms ("phytón" meaning plant, "gram" meaning drawing in Greek) (Harper, n.d.: online) is a cameraless process that uses plant chemistry differently: leaves or flowers are placed in the sun in a solution of sodium carbonate and ascorbic acid. This activates the plant's light-sensitive properties and converts the plant and liquid into an analogue, photographic film or paper developer. Activated plants placed on a light-sensitive surface like film or paper react where they make contact, developing the light-sensitive surface as the silver halides are converted into silver metal and causing areas of liquid, dark brown marks. The film or paper is then fixed to reveal the image and make it permanent.[20]

Anthotypes ("ánthos" meaning flower in Greek) (Harper, n.d.: online) are made with plant-based emulsions coated on cotton paper. The object is placed over the emulsion and left in the sun for up to two weeks. The plant material bonds to the plant/paper substrate and is light sensitive. Depending on the plant material used, some emulsions may be more fugitive, changing more quickly in light than others. Where the object touches, light is held back, and where it is exposed, the emulsion reacts to light and fades, leaving a trace of the object. This ephemeral index disappears over time if not protected by darkness or coated with a UV varnish. Because fixing is vital to my practice, my anthotypes are fixed.[21]

Anthotypes always resemble positives, because the sun bleaches away the exposed area not covered by the plant, leaving behind a solid tone (Fig. 48); the phytograms develop the silver where they touch, creating an immediate positive trace (Fig. 45); the lumen prints behave differently depending on duration of exposure and atmospheric and material conditions. Lumen prints can appear as negatives, positives or negative and positive together. A short exposure time creates a shadow of the plant and an image that resembles a negative (Fig. 49). If the plant is left for longer in the light, however, it behaves like a negative, filtering light and creating an image that



Figures 46 & 47
Vanessa Cowling
Untitled (garden) unfixed and fixed (detail), 2021-2022
Lumen Print

19. "Lumen print" seems to have first been used to describe cameraless works made by Jerry Burchfield in the Amazon jungle (2004) (Stockdale, 2009) using a process almost identical to the calotype process invented by Talbot (Stockdale, 2009). However, Talbot used the original contact negative to print a positive image, resulting in the negative/positive system of photography that dominated the history of photography. The cameraless photographic images have been called many names, including calotypes, photogenic drawings, photograms, sun prints, contact prints and shadowgrams.

20. Phytograms are a relatively new cameraless process invented by Karel Doing in 2016 (Doing: online).

21. A group of scientists, including Mary Sommerville, experimented with this process in the nineteenth century, investigating how various natural plant dyes responded to varying light rays, heat, moisture and chemicals (Romero, 2020: 1).

Figure 48
Vanessa Cowling
Untitled (garden) (detail), 2021-2022
Anthotype

Figure 49
Vanessa Cowling
Untitled (garden) (detail), 2021-2022
Lumen print

Figure 50
Vanessa Cowling
Untitled (garden) (detail), 2021-2022
Lumen print

Figure 51
Vanessa Cowling
Untitled (garden) (detail), 2021-2022
Lumen print

resembles a positive (Fig. 50). Using a plant with different densities or overlapping the photographic paper can create an image that appears to be both positive and negative (Fig. 51).

In working with the processes described above, the plants are simultaneously the object, subject and process of my work. Furthermore, the above processes can be set up in subdued light, such as shade, and do not require a darkroom (unlike, for example, a photogram).

While some science and chemistry is involved in what I do, I am more interested in the artistic process of play and experimentation. Based on my photographic knowledge, I take a leap of faith and try things until they work – or discard them if they do not work. I am making art, not proving a scientific thesis. While my sustainable darkroom practice problematises darkroom practice, it does not offer absolute solutions.

Why I work with plants (and a connection to the cosmos)

I first started photographing flowers and plants when my father died in 2007 (Fig. 35). Our home, like many others after the funeral, was filled with flowers sent as a gesture of sympathy. I took the flowers to my studio and photographed them as they wilted and died. I was guilty of "plant blindness". Looking back, I wanted to distract myself from overwhelming grief, and I realise now that it was also a cathartic process and a meditation on the natural cycles of life and death. It seemed appropriate to work with plants in a project centred around beginnings and endings and light (and its absence).

I have long been interested in cycles of life, death, decay and mourning, and with hindsight, the flowers represented for me a cycle of human birth and death. My graduate work in 1998, the *Mending* series, explored notions of time, healing and fixing. I created a still life from fruits (the product of plants) that I had cut up and stitched back together with various threads, from cotton to leather. I watched these arrangements decay over several months, growing a patina of moss-like fungi that organically covered the incisions and stitches. I was mesmerised by the micro landscape that developed by itself, and I photographed the changes at various stages. I printed my images as large colour photographs; some looked like aerial photographs,

seemingly from afar, but were actually close-ups. Time was marked by changes fixed in the photographs. I then embroidered these works in a futile attempt to turn back the clock, to mend what could not be fixed. They became something completely new: embroidered photographs that explored the notion of time and materiality, mortality and decay.

Fixing the shadows hints at a similar desire to mend again, to fix the dark and fearful aspects of my own world. In a sense, my work in this MFA is a continuation of my interests described in the *Mending* series and in the images I made of flowers after my father's death. However, in making these MFA images I did not want to "take" pictures but to manifest a more reciprocal relationship with plants, one in which my and plant agency were mutually acknowledged. We are taught to "take" a picture, to "capture" a moment. I hope to ameliorate the one-sided selfishness, even violence, of these words and of the history of photography with the nurture and care of the sustainable photographic garden. I wanted to give something back – to make, not take, in the same way that my photographs are made, not taken. Planting the garden made me feel more connected to the planet and enabled me to share through teaching and community. The garden and gardening also brought me closer to my mother the gardener, and to friends, students and colleagues through our shared labour, appreciation and care, even as I acknowledged the privilege of that access to land.

Cosmos

I have written about the significance of slow photography and photography's connection to death. As I collect fallen plants, hoping in some way to memorialise them, I see a connection to David Campany's description of photographers as coroners or undertakers. However, my classmate Andrew Juries pointed out that he also saw my role as carer in my work and that these two roles are not so far removed from one another. My father's death came in the same year that I became a mother and stepped into the role of carer.

In her biographical work *Hold still* (2015), Sally Mann writes about appreciating a moment of beauty in front of her, a field touched by golden light. Her experience was tinged with sadness, as she understood the cycle of nature and the fact that the moment or experience was fleeting, and so too was the subject. As with all things that grow, the field itself would die – and hopefully regenerate.

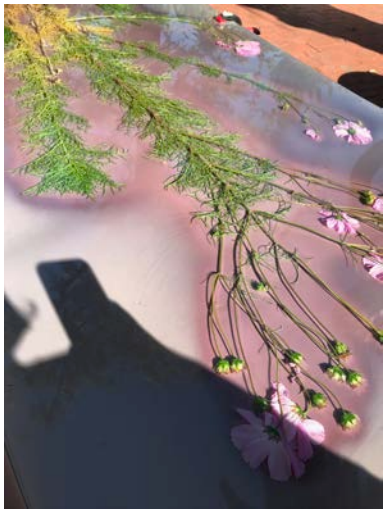
I am fascinated by the cycles of the Earth: plants die, animals die. When we die, our bodies can return to the earth to become compost and regenerate the soil. A flower blooms, then wilts, then dies, but it blooms again the following season. In my work I look closely and intently at plants and their intricate details, striving to perceive their beauty, even in their inevitable decay.

I have explored the relationship between the micro and the macro and how these sometimes have similarities of form; matter on a cellular level can look very similar to matter on a cosmological level. I use a number of silver-based processes such as lumen and phytogram printing, in which the light-sensitive surface I expose onto becomes silver metal once it has been touched by the activated plant. The elemental silver that develops on the photographic paper or film comes from high-energy events like supernova explosions, a finite resource from the stars. Here I connect Campany's notion of the light-sensitive surface in relation to trace and shadow back to the stars. Whether a trace and/or shadow in a photogram, the silver that has formed on the paper or film, comes from the distant past, from supernova explosions and is brought into being by contact with the here and now, in the form of the activated plant when specifically making phytograms. Silver is formed where the plants touch, reuniting the present with the deep past.

In this project I make reference to the cosmos, not only because the universe began with the Big Bang (Greene, 2020), but because I am interested in the idea of heaven. Working with plants and the cosmos reflects the idea of macro and micro. Something vast and infinitely big, mimicked and explored in microcosm to connect and understand the "bigger picture" and my place within that. I am also interested in the cosmos because it enables me to look back. The only other time I can and am looking back into the past in the present is when I am looking at a photograph. So to me, a photograph of the sky is essentially a "death portrait."

If the stars connect us to the past, plants connect me to the here and now, rooted to the earth but made from the stars. They live and die within our time scale, and we can easily observe their life cycle. I can watch their changes as they grow, bloom, wilt and die. It is much simpler to see and understand such cycles than complex theories of our





Figures 52- 54
Process images, cosmos becoming a lumen print

origins and time and space, ideas I cannot see. Carlo Rovelli explains that time is marked or measured by change and that "the world is not a collection of things, it is a collection of events" (2019: 87). I understand the notion of change and events, and thus I understand time by significant events and by watching seasons change. Leaves fall and plants and flowers die, seed and regrow. And I wonder if this is how the universe works too, on a much larger scale.

Why work with a slow, haptic, cameraless process?

There is nothing instant about the process of making anthotypes, phtyograms or lumen prints; I spend a lot of time watching and waiting. These processes take time, and that time is variable, dependent on the season, the weather, time of day, the plant, the paper and the paper's history and age. In making these photographs, time seems to slow. The slow, cameraless photographs I make are intuitive watching experiences that begin long before the exposure itself. Because plant agency is a key factor in the work I make, the process of making begins with the literal planting of a seed.

In September 2021, Svea Josephy brought some cosmos seedlings from her home, which we planted in the sustainable darkroom garden. The seedlings survived a hot summer that devastated most of the garden. Perhaps it was the sunflower, planted arguably too close to the cosmos, that supported its flexible stem from the unrelenting southeaster. The growth of the cosmoses was keenly monitored and admired by our garden community and brought us joy. Numerous selfies were taken comparing them to individuals' heights as they reached for the heavens, until their petals started to fall and the plant's life cycle started to wind down. We sowed their seeds and, feeling bittersweet, I harvested the dying plant, which was by now over 2 m, the height of a tall human body (Pl. 26, Figs. 52 - 54).

Perhaps it was the time, the care and the mutual pleasure between my "garden colleagues" and me that made the resultant large lumen print feel significant to me. The photograph is as unique as the cosmos itself and has become a memorial to the plant. There is a physicality to making a photograph on this scale. A two-meter table and two metres of glass are heavy and require several people to carry them out into the sun, almost like pallbearers.

I sat outside with the body of the cosmos plant, watching the paper change colour over several hours. Was I behaving like a coroner? Sitting in wake? The slowness and effort required gave me time to reflect on the nurturing of the soil and the watering of the land. The time it took to make this photograph also gave me time to think and surfaced a sense of awe and wonder for the plant. When I look at this

Figures 55
Washing prints in the garden, 2022

lumen print now I feel a twinge of grief, a sadness, but I also feel joy at its growth and the many hands and stories shared around it. I documented the cosmos's journey to maturity on my phone, but I was not interested in photographing it in a traditional, lens-based way. Because of the relationship I had developed with this plant, I wanted to make its portrait, or death mask, so I chose to make a labour-intensive, cameraless lumen print. When I touch the paper of the unframed print I feel a closeness to the plant, whose own touch left its mark on the paper. The material, haptic, cameraless photograph offers a reminder of closeness, intimacy and life, and there is no protective glass frame to form a barrier.

Materiality and vibrancy in my work

This body of work considers materials and materiality on several levels, particularly in relationship to how they begin, how they interact and what they become.

To be respectful to the environment I am mindful of the materials I use, because environmental consciousness is crucial to my practice. My use of expired, redundant and obsolete photographic paper and photographic and X-ray film is a decision, not a technological limitation. Material redundancy leads to experimentation and enables me to use "waste" materials. I also work with plants – fallen, gifted or grown in my domestic space and the institutional space (UCT). I prefer not to pick flowers but to wait for them to fall. When I *do* harvest plants, it is done with care, and to avoid putting strain on it and I never take more than ten percent of the plant. In my anthotypes I coat cotton paper with plant emulsions. I use my organic kitchen waste to feed my earthworm farm and create earthworm-casting tea, which I use to make the developer that I use to make phytograms.[22] I also activate the plants themselves to make developer for phytograms. The exposed, used plant material is returned to a photographic compost to be used again at various stages of decay. The only materials I purchase are the cotton paper and Ilford Rapid fixer, the latter because fixing is a vital component of my practice. The photographic fixative is used until exhaustion and then sent to SA Precious Metal, where it is recycled and the silver from the used fixer is reclaimed. I wash the prints in the photographic garden, simultaneously watering the garden (Fig. 55).

I consider these materials to be vital, lively and vibrant and am drawn to Jane Bennett's notion of

22. Earthworm-casting tea is an earthworm farm by-product: kitchen waste is added to the farm, and the worms convert it into compost, also producing a liquid. To make plant developers, phenol-rich plants are soaked in a solution of water, sodium carbonate and ascorbic acid and left in the sun to activate. As the casting tea is a plant by-product I wondered if it was phenol rich, so I added sodium carbonate and ascorbic acid to it and left it in the sun. The result was an active plant-based developer that converts exposed silver halides to silver metal.

Figure 56
Dead plant material soaking in earthworm-casting tea developer
2022

Figure 57
Making a phytogram with the dead plant soaked in earthworm-casting tea developer
2022

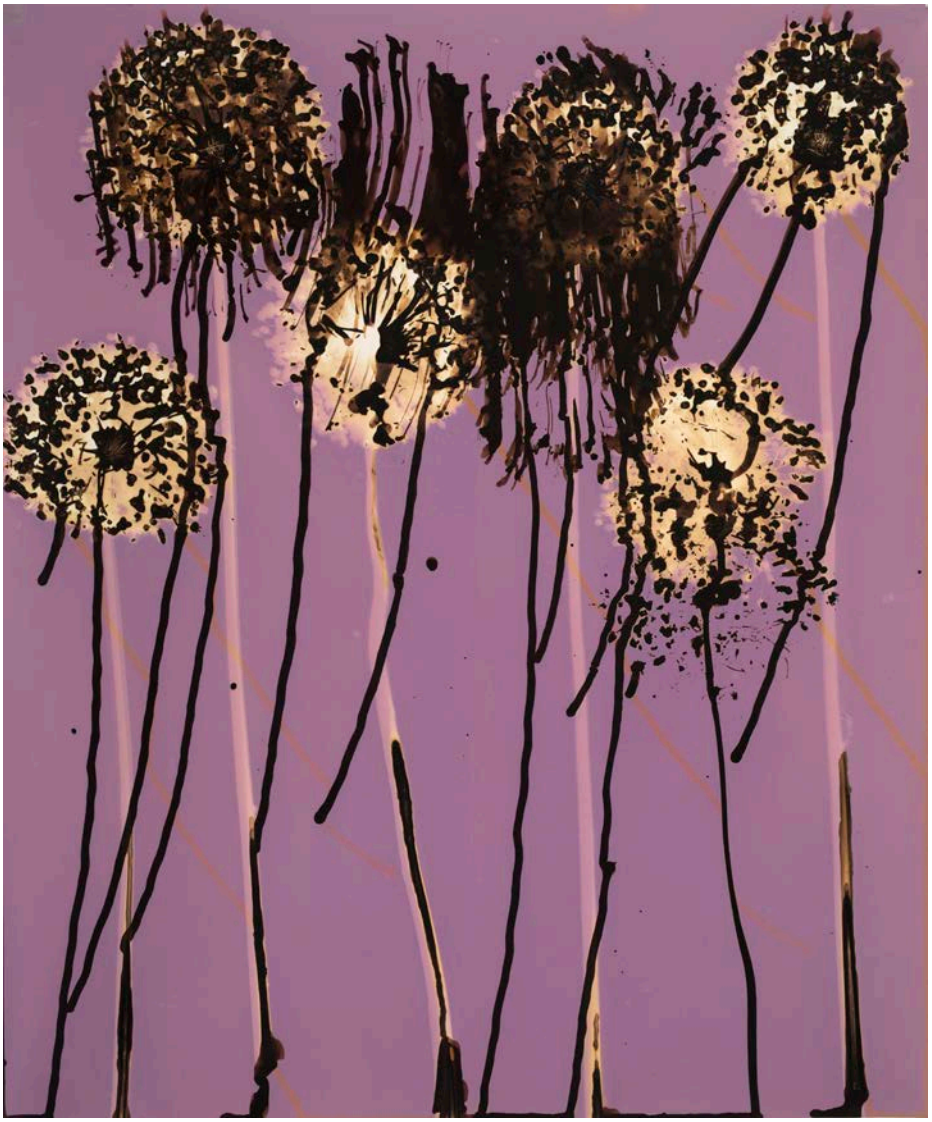


Figure 58
Vanessa Cowling
Untitled (garden) (detail), 2021-2022
Phytogram

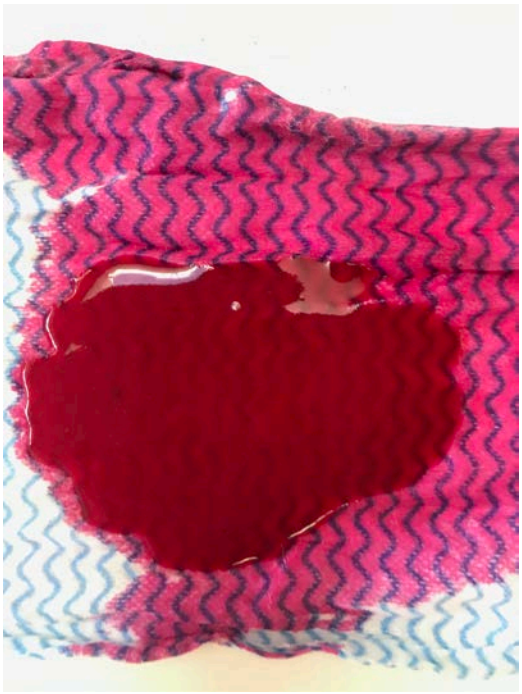


Figure 59 & 60
Making anthotype emulsion from dragon fruit
2022

"vibrant matter" (Bennett: 2010). Physics tells us that all matter is made up of the same substances, atoms and chemicals and that energy is material (Lange-Berndt, 2015:18). In our human-centric way, however, we still distinguish between and create hierarchies of "living" and the inanimate. Bennett asks how our thinking would change if we were to take seriously the vitality of nonhuman bodies (Bennett, 2010) and argues that by "worrying" this idea of non-living and living we can shift the paradigm, so that all substance, all matter, is afforded respect, having both a political and philosophical impact (Bennett, 2010: vii).

Bennett suggests that shifting our thinking to "vital materialism" will greatly benefit both of what we identify as "the environment" and "human". By placing both human and environment in the all-encompassing category of "vibrant matter", Bennett removes the human role as the sole and primary agent. This allows me to consider more deeply the materials I engage with and what they become once they have been acted on – or rather, once they have reacted with themselves and other forces.

Vital materialism allows me to imagine how the materials will continue to "live" in the world. In this context, I see my work as vibrant in both the material awareness and engagement of its making and in its results. I give careful consideration to my materials and what they will become through the actions and processes I initiate. Thinking of them as active and alive makes me more conscious and aware of their effect on the environment. The aliveness of the materials also comforts me, as it makes me realise that nothing ever really dies.

This is a photographic project in which all the photographs are made without a camera, relying instead on direct physical contact. The light-sensitive paper and film and the light-sensitive plants are all vital and have the potential to change. When two light-sensitive substances react, like the paper and the plant, they *both* react. Both change, creating a residue or trace – not on the surface of the paper or film but *within* it as the embedded light-sensitive silver changes. Unlike the additive surface of painting or drawing, the photographic result of the action, the change, in my work is always embedded in the paper. What remains of the "alchemical" transformation of touch is an implanted material that will continue to change if not fixed. "Alchemical" (as opposed to "chemical") is used here deliberately and metaphorically, as the expired monochromatic paper is transformed from dull, lead-like

greys and blacks into an array of warm, often golden, hues in an apparent transmutation of matter.

My thinking has been influenced by my supervisor Penny Siopis' writing in *Material Acts* (2018). Siopis draws on Bennet's *Vibrant Matter* (2010) to reflect on how her materials, the nonhuman matter of glue and ink, have agency and how she creates the conditions for their unpredictable chemical reaction. Interaction with the forces of air and light fix her paintings, a phenomenon that can be seen as akin to the process of making (and fixing) photographs. In fact, Siopis (in Stevenson, 2017, online) says, "[T]he glue is vibrant; it reacts chemically with the ink, responds to the pull of gravity, and is animated by exposure to the air. Opaque at first, the glue becomes transparent as it dries. At this moment animation is suspended, and form is fixed into a potential image." Although the form becomes fixed through the interaction with air and light, the work continues to change. I too create the conditions for my materials to interact and I cannot wholly control the outcome, but the fixing of my images halts the change.

When making my prints, which takes hours or days, I do not know how the particular plants I have chosen will react with the paper in changing environmental conditions, but I do know that they will act upon one another. I can only observe the materials' reactions to each other to a point: I see the change in paper colour where nothing touches except light particles; I observe transient changes where the edge of the plant material meets the paper, where the paper is not covered and where the natural forces of air, wind, heat and water creep in. I may see the plant change colour as the sun bleaches it, and I sometimes see moisture evaporating out of it, forming a kind of greenhouse and condensing under the glass and dripping back onto the plant and the paper. I create a micro-environment, but I am not in control of it. The agency lies with the light-sensitive surfaces and the space and environment it occupies.

Following Siopis (2018), I create the conditions for the artwork to make itself. In all these photographic works I consciously start and end the process, but what happens between starting and ending is unpredictable. The process is in a sense a collaboration between me, the plant, the materials and the environment. Despite the sense of wonder one may feel in the photographic process, the image does not emerge by magic but as a result of the multiple factors at play and the chemical reactions between them. But even science cannot predict the exact outcome of the materials' agency upon each another, and something new and unexpected is made with each work.

All the paper and film I use is in a traditional sense "dead" and cannot be used as intended by its manufacturer. They have been exposed, or "fogged" to use the photographic term, and would turn black if placed in developer, but using lumen and phytogram printing activates them in a different way. Most of the paper I use is no longer made today, so my results cannot be replicated. In the paper works that make up the large installation in *Untitled (Garden)*, this has resulted in vibrant warm, rich pinks, magenta, purples, yellows, browns, blues, oranges and reds.

This is particularly remarkable because the photographic paper is black and white paper that traditionally only produces monochromatic images. The colours in the results of my processes are always warm but differ according to the paper, its age, the environment, the plant and the conditions in which the photograph was made. In Plate 8, for example, there are golden browns, warm pinks, yellows, ochres, rust and traces of olive greens. Plants that still have some "life" in them (i.e. are not completely dry) create a glow around their traces and produce an array of tones and colours. Some objects in the photographs appear not only to "glow" but also sometimes to be aflame, appearing to hover between the states of life and death, on the verge of transmuting into something else. Collectively, the colours seem like autumn leaves about to be shed for winter, signalling the inevitability of change and that something must end before it can begin again.

Although the works reference the past, they also assertively move away from it. Lumen prints essentially follow the same process used by Talbot at the advent of photography (Stockdale, 2009). Both are contact prints made directly in the sun, resulting in a trace and negative of the object that touches the light-sensitive surface. Talbot used the negative to make a contact positive, which ultimately allowed for multiple positive prints to be made. I made no multiple positives for this MFA work. The works are singular prints that operate collectively to make up the larger artwork, a work that is not static but changes and grows with time and the space it occupies. *Untitled (Garden)* is organic and will continue to grow and change, responding to its context. The artwork is in a sense conceptualised as living, and I acknowledge the materials as lively and hope to visually translate the idea of vibrancy embedded within the photograph. The installation is not inert but is vital, dynamic, growing and changing. At the time of my exhibition, *Untitled (Garden)* will be two years in

Figure 61
Vanessa Cowling
Untitled (garden) (detail), 2021-2022
Anthoype

Figure 62
Vanessa Cowling
Plant process residue
becomes compost

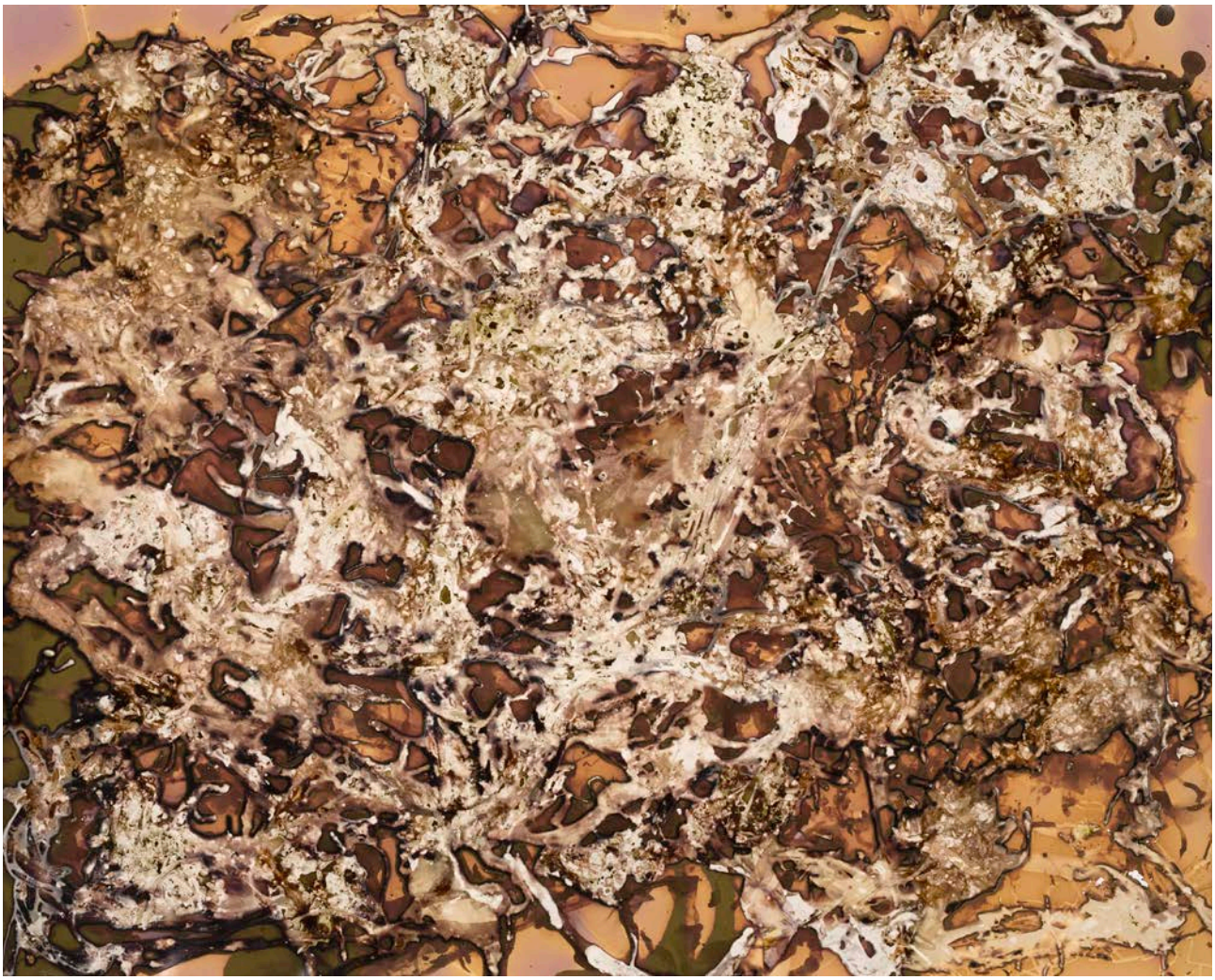


Figure 63
Vanessa Cowling
Untitled (garden) (detail), 2021-2022
Organic chemigram print

the making, and it may continue to grow and change as more time passes and it occupies different spaces. The works are not sequences depicting linear time from when they were first made to the present. Instead, rooted images (plants with their roots intact or images resembling roots) from different seasons and times are nearer to the ground (Pls. 9 - 11, 14, 15), with plant bodies, leaves and flowers in the middle (Pls. 12 & 13). Some plants are recognisable as they float singularly within the page (Pl.17), but others exceed the frame (Pls. 18 & 19). The images become more abstracted and more cosmological in appearance as they approach the top of the gallery wall (Pls. 20- 24). Sometimes, a singular image forming part of *Untitled (garden)* encompasses all three, roots, plant body and cosmological dust (Pl. 25).

Fixing the shadows is about time and space in relation to photography. If I consider *Untitled (Garden)* specifically, the human body as it experiences the gallery space is the site of an interchange of the past, present and future. *Untitled (Garden)* references the past in the origins of analogue and alternative photographic processes (ambrotype and lumen prints), while the viewer experiences the work in the present, and the future is evoked in how the work will change in another space.

I recognise that sections of the larger work in *Untitled (Garden)* have a visual similarity with Atkins' work, which catalogued and classified plants in a way typical of scientists and artists at the height of empire. This was pervasive in South Africa, where imperialists such as John Herschel (the inventor of the cyanotype) drew and catalogued plants, and by extension land, and mapped the southern skies.

As the processes I have used are rooted in this time, it was important to be critical of what it means to use a historical process and try to disrupt it. The traditional medium, material and processes of photography are not innocent, being environmentally destructive and playing a role in extraction to capture and catalogue plants and other beings.

I hope my work acknowledges this past but moves the discussion to different questions and processes. In being conscious about the materials I work with and their environmental impact I hope to embrace a more sustainable photographic practice. In planting the garden I hoped to put something back into land that was taken, and I also share the agency of the materials. I have not identified the individual plants, and they are not represented for the purposes of classification.[23] I am conscious of not falling into the trope of "plant blindness". Colour also complicates and

Figures 64
Christian Boltanki
Leçons de ténèbres, Salpêtrière Chapel, Paris, 1986
Exhibition view

23. Although I do not name the plants by their scientific Latin names, the plants are often named by their common names. Their names are shared and differ between cultures.

24. I have used traditional photographic film as well as ortho and graphics art film. Unlike traditional photographic film, which must be handled in complete darkness, you can open graphics art film and ortho film under red light because It is only sensitive to blue and green light.

25. Baldwin explains that ambrotypes are the same as collodion positives but the word ambrotype was preferred in the United States. (Baldwin, 1991: 8).

separates this work from the "scientific" representations of the 19th century. The colour draws out connections, parallels and similarities that are not classificatory but have more to do with connections as I experienced the garden. Because each leaf or plant has a story, the work becomes more autobiographical.

Anthotypes and lumen prints (under different names) have been around since the beginning of photography, but phytograms are a very recent invention. Including such prints in *Untitled (Garden)* and throughout *Fixing the shadows* adds an important and contemporary component to the work, distancing the work from the past. The phytogram process foregrounds plant agency, sustainability and environmental consciousness. Historical processes may evoke an aspect of nostalgia, but while individually my work bears visual similarities to the work of early photographers, it is firmly rooted in the politics and representation of the present environment and its current crisis.

It is only when I decide that enough time has passed and the still changing exposure is brought into the safety of relative darkness that I properly witness the result of the interaction of the materials. As I unclamp and gently lift off the glass and then the wilted, flattened plant, I smell the result of the dynamic interaction – often a musty, earthy smell. I see the marked result on the paper, seemingly magical because it does not "double the visible world" (Cole, 2016: 197). The cameraless photograph often reveals different details than the lens-based photograph, creating an image or memory of things unseen (Cole, 2016). Light travels through the plant and interacts with the paper, creating unexpected colours and previously unseen forms. It sometimes even sees inside the plant, giving it an X-ray quality.

This quality is foregrounded in the work I made with expired X-ray film I collected from a medical supply company, which could have been melted down to retrieve the embedded silver but would have incurred a carbon-emission cost. Developing it with the help of the plant and then fixing it releases the excess silver into the fix, which is sent out for silver reclamation.

Unlike traditional photographic film, which has a light-sensitive emulsion on only one side, X-ray film is light sensitive on both sides. As a result, the plants in my work leave a trace where they touch and develop the film, but as the plant developer seeps around the film and onto the Masonite backing board, the board sometimes leaves a trace too. The backing boards I use have many stains on them, residues of many plants, films and paper. This history or memory is buried in the backing board and sometimes appears on the film. The photographic image is thus sometimes embedded with many time frames, a multiple exposure of different traces.

I initially sourced the X-rays because I wanted larger sheets of film and I wanted to bring waste products back to life. X-rays are typically used as a diagnostic tool to find an illness or problem within the human or animal body. Working with X-ray film and plants' developing properties in the phytograms draws a material connection to human X-rays and human bodies and highlights the human/plant bodily connection that Galiano writes about and that is demonstrated in the works of Mann and Mestaoui.

The phytograms on film form part of the interactive light installation in the projector room of my exhibition (Pls. 16–18). The projector room is conceptualised as a liminal space, neither light nor dark but somewhere in between, like twilight. The images were made on different types of translucent film of various sizes. Like the works on paper, the works on film were made with materials redundant in the sense of their originally intended use and include old X-ray film, fogged 4" x 5" film, ortho film and graphics art film.[24] These transparent images are viewable with obsolete analogue equipment, including old overhead projectors, a slide projector and light tables of various sizes. The slide projector and light projectors click and fan, blowing hot air out.

There are two small lightboxes made from collodion positives, or ambrotypes[25] in the light installation in the projector room. Unlike the ambrotypes of the 1850s or the collodion negatives by Sally Mann, I made cameraless phytograms on the collodion glass, working with plant chemistry to develop the silver, bringing together an old and a new process (Pls. 37 & 38). The damp, light-sensitive substrate is incredibly delicate, and I had to take extra care when placing a plant not to damage the surface and cause the skin to rupture. The materials evoke qualities of human skin that delicately and thinly cover the glass. The materiality of the glass substrate is also significant. Simultaneously fragile and dangerous, glass is sand transformed by extreme heat. When the final ambrotype/ phytogram is made, covered in its final form with elemental silver, earth (via the sand and plant) are bought together with silver, from the stars.

In curating this installation I was influenced by the work of Christian Boltanski, Wim Botha and Edgar Cleijne and Ellen Gallagher (Figs. 64–66). The lightboxes and overhead projectors cast transparent images, sometimes

Figure 65
Wim Botha.
Solipsis, 2012
Installation detail
Pinewood structures, wiring, florescent tubes and carved Styrofoam
Dimensions variable

Figure 66
Edgar Cleijne and Ellen Gallagher
Highway Gothic, 2019
Installation view
16mm film installation with 70mm film cyanotype banners, lightboxes, and cyanotype textile banners; overall dimensions variable.

with multiple and overlapping phytograms. The lightboxes illuminate the phytograms, making details visible that might otherwise be missed. The overhead projectors enlarge and project the images onto the walls from the ground, giving a sense of standing among the oversized plants in the garden. The floor is covered in electric cables that extend to the projectors and light boxes, and the viewer must tread carefully so as not to trip on the entangled wires and damage the work (or themselves). This is a reminder to tread lightly in the world and to take more care. I also want to draw awareness to the interconnectedness of all materials, both those we see and those we cannot see.

To extend the idea of interconnectedness I made a large composite work of phytograms on expired X-ray film, extending from the ceiling onto the floor which forms part of the light installation. Measuring approximately 6.8 m long and 85 cm wide, it is lit by long LED tubes on the wall and floor. The works on the floor are darker and more entangled and root-like. The work becomes lighter as it extends upwards, eventually extending to the ceiling and by inference, the heavens, and I imagine it connecting to the sky above, where twilight meets the imagined night sky. In this part of the work the plants become more abstract – dust-like or star-like.

Varying light sources backlight the translucent photographs that make up the Boltanski-inspired "memorial wall" and other translucent works that are scattered around the room, overlapping and intersecting projected images. These works on film appear to float off the wall at various depths. The light behind them is diffused by tracing paper instead of a harder diffusion material, maintaining the work's fragility and film-like qualities. Boltanki's work, in the form of collected, anonymous portraits, speak of lost lives, past lives, and remind us of our own mortality. The entangled cables in Boltanki's work, remind me, that all life is connected. Similarly, my "memorial wall", speaks of life lost, of the plants (and humans), but also, speaks to a connected and enduring lifecycle.

The lights behind the images vary in type and colour temperature, sometimes warm, sometimes cool. The colour in this room is more subdued than the reflective colour in the main gallery. The light here is foregrounded, reminding us of its crucial role in photography and photosynthesis. This light is artificial, and the wires and entangled space raise questions about its source. In South Africa, electrical power is predominately from burning coal, a plant derivative.

Root-like electrical cables also creep up the wall, a visual clue to the hidden, entangled, subterranean, vegetative world. According to Nuttall (2009:1):

> Entanglement is a condition of being twisted together or entwined, involved with; it speaks of an intimacy gained, even if it was resisted, or ignored or uninvited. It is a term which may gesture towards a relationship or set of social relationships that is complicated, ensnaring, in a tangle, but which implies a human foldedness. It works with difference and sameness but also with their limits, their predicaments, their moments of complication.

The cables are literally entangled and remind the viewer of their own entanglement in the environmental issues faced by humanity, our complicity in looming environmental disaster and our agency in selecting a path to fix it.

In Cartier-Bresson's parlance, the "Decisive Moment" (Campany, 2017, 29) is the moment the photographer presses the shutter. The "art" of the photograph is knowing when, down to the last millisecond, to press the shutter. My moment is thus not a very decisive moment, but it is not indecisive. I watch the print carefully as it changes in the sun. Should I leave it for two hours, for four hours? For three days? At what point will it be "ready"? After waiting and watching I decide when to end the process, and then I remove it to the protection of darkness to fix the image. Another "decisive moment" occurs as the paper is placed into the fixative bath and immediately – and permanently – changes the colour.

Some artists do not fix their works, preferring to let them shift and change as a commentary on the nature of life. In *Dithugula tša Malefokana: Seeing other people's stories, telling tall tales* (2012) (Fig. 67), George Mahashe allowed members of the public to print an image from an archive in a darkroom set up in the gallery. The public used developer and stop, but no fix. The images were thus chemically unstable and became "fogged" when they were removed from the darkroom. It was conceptually important that these images fade to black. Batchen describes the unfixed photographic image that needs darkness to survive as a "ghost, unable

Figure 67
George Mahashe
Dithugula tša Malefokana: Seeing other people's stories, telling tall tales, 2012
Process Image

to be seen but always present nevertheless" (2016: 35). In giving viewers agency to make photographs but not fix them, Mahashe was freeing the ghosts that inhabit the archive.

I fix my prints because I want to be an active participant in their creation, and I do not want them to disappear and become ghosts. I acknowledge the importance of fixing in the history of photography and recognise this as a starting or beginning point of photography. Asked to define photography, Teju Cole (2016: 197) writes:

> I suggested that it was about retention: not only the ability to make an image directly out of the interaction between light and the tangible world but also the possibility of saving that image. A shadow thrown onto a wall is not photography. But if the wall is photosensitive and the shadow remains after the body has moved on, that is photography.

For Cole, a fixed image makes a photograph; photographic fixing transforms memory to matter. But on further reflection, this may be a paradox, "Because to live, humans need to interpret the world reductively as a series of fixed objects, a need reflected in the rhetorical role assigned to the word *material.* As a noun or adjective material denotes some stable or rock bottom reality" (Bennett, 2010: 58). I have always thought my photographs to be wholly fixed – that they will never change, never fade, never, in a sense, die. I believed them to be stable and unchanging. But after reading Bennet (2010: 57 - 58) I realise that this is not and can never be the case, because:

> [The] vital materialist can invoke a theory of relativity (of sorts): the stones, tables, technologies, words and edibles that confront us as fixed are mobile, internally heterogeneous materials whose rate of speed and pace of change are *slow* compared to the duration and velocity of the human bodies participating in perceiving them. "Objects" appear as such because their becoming proceeds at a speed or a level below the threshold of human discernment.

The fixed photograph is in fact not fixed, its temporality merely slowed down and imperceptible to the human eye. Thus, I can extend the life of the photograph, but I can never make it permanent. It can never be completely fixed. Photographic fixative only slows the rate of change in the photograph, working until it is "exhausted".[26] It reminds me that the fixative is also active and lively.

As the viewer leaves the gallery space they encounter a small 8,5" x 6,5" collodion positive lightbox (Pl. 39), where I have constructed a night sky. Through a reductive process the fixative in this work becomes the stars and the silver becomes the darkness. Fixing is vital to this work, as it shapes not the darkness, but the imagined light. The silver was developed using plants from the Sustainable Photographic Garden and not commercially bought developer. For me, the imagined past, depicted by the night sky and the stars, meets the present, the here and now, and time seems to fold inward. The work makes me hopeful that when night comes I will see not only darkness but stars.

26. Photographic fixative is exhausted when it can no longer be used for its originally intended purpose.

Conclusion

My father died too young. I often wonder whether he could have been "fixed" had he received more and better care. Would he have lived longer?

In Fixing the shadows, I have made slow, haptic cameraless photographs with the aid of plants. I have fixed them all so that they will not become ghosts like my father. Time is marked by change. When I fix my photographs, their change stops. I slow time and extend their lives.

"When the photograph outlives the body – when people die, scenes change, trees grow or are chopped down – it becomes a memorial" (Cole, 2016: 198), still, unchanging and frozen in time. Vladimir Nabokov describes human life "as a brief crack of light between two eternities of darkness" (in Greene, 2020: 13), and Cole writes that "Photography is inescapably a memorial art. It selects, out of the flow of time, a moment to be preserved, with the moments before and after falling away like sheer cliffs" (2016: 197). I preserve a moment of a long duration in a relatively rapid gesture of fixing. The viewer sees the result but not the lengthy and careful processes that preceded it. I have chosen these residues as particular moments that exist dynamically together to bring a sense of vibrancy to the exhibition through an immersive experience of scale, colour and light.

My project is also located in thinking about the environment and photography. Here, I am fixing in the form of care. Care for a small, neglected piece of Earth in the Sustainable photographic garden. Care in sharing this space and its teachings with students, friends and colleagues. With the help of the garden, I have tried to fix photography so that it is less environmentally destructive.

In this body of work I recognise the plant world as one with agency and that acts. I also acknowledge the enduring agency of obsolete photographic materials. Over the course of this MFA my works have become less figurative and more abstracted, connecting like tendrils, roots and nebulae across and entangled within images. I imagine the subterranean world of roots and rhizomes that live, communicate and connect and the cosmic origins from which they came. The work is a suggestion, a genesis and a haptic way of understanding vibrant matter as all encompassing.

Fixing the shadows is a project about photography and light, about locating the light in the darkness, metaphorically speaking. It is about making a light print (lumen) instead of a shadowgram, and it is about stepping out of the darkroom and into the light. The intention of the project is to work reciprocally, respectfully and carefully with plants. The project harnesses and works with the light-synthesising properties of plants and acknowledges how they can poetically bring life back to dead light-sensitive paper through phytograms. I also worked with plants to make non-toxic photographic emulsions in anthotypes.

This project is in many ways only the groundwork, as there is much still to do in this arena. In the short term my aim is to work with other photographic organisations, for example the University of Stellenbosch and the Cape Town School of Photography, to set up sustainable darkroom gardens and to teach others about sustainable darkroom practices. I will continue to experiment, making, playing, learning and teaching in this area, which, although originating from photography's past, is destined to be part of its future.

The barren soil can be made fertile again, to share and hopefully shift photography to a practice that is less about taking, capturing and shooting and more about gently learning and sharing.

Plates

Plate 1
Untitled, 2022
Lightbox, Phytogram on 4” x 5” sheet film

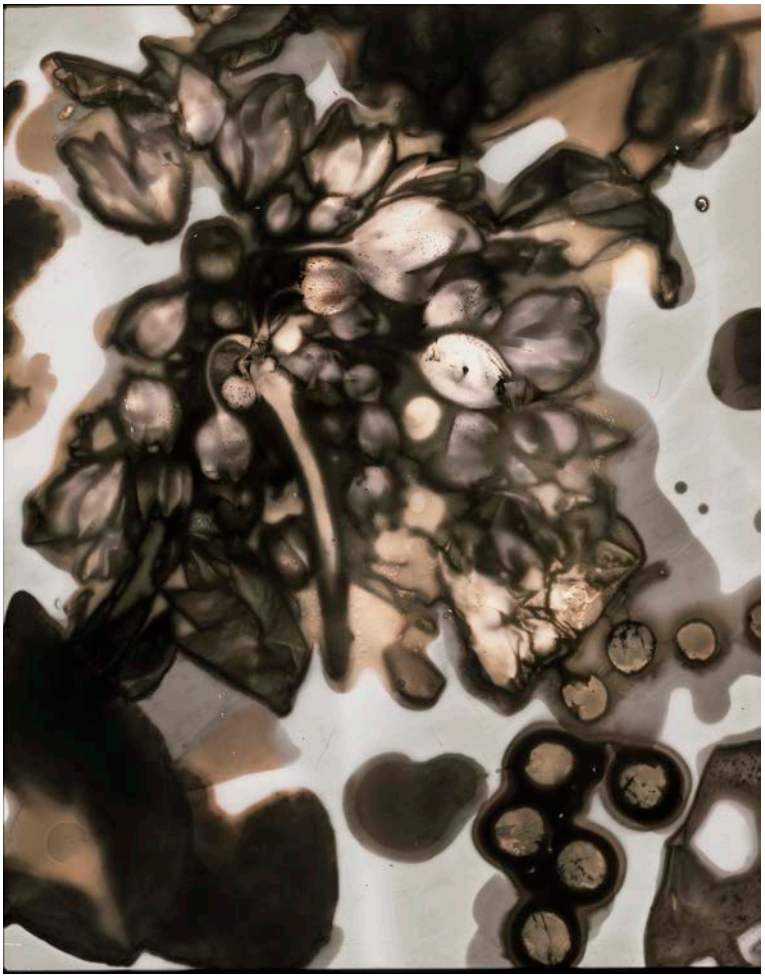


Plate 2
*Untitle*d, 2022
Lightbox, Phytogram on 4” x 5” sheet film

Plate 3
Untitled, 2022
Lightbox, Phytogram on 4” x 5” sheet film

Plate 4
Untitled, 2022
Lightbox, Phytogram on 4” x 5” sheet film

Plate 5
Untitled, 2022
Lightbox, Phytogram on 4” x 5” sheet film

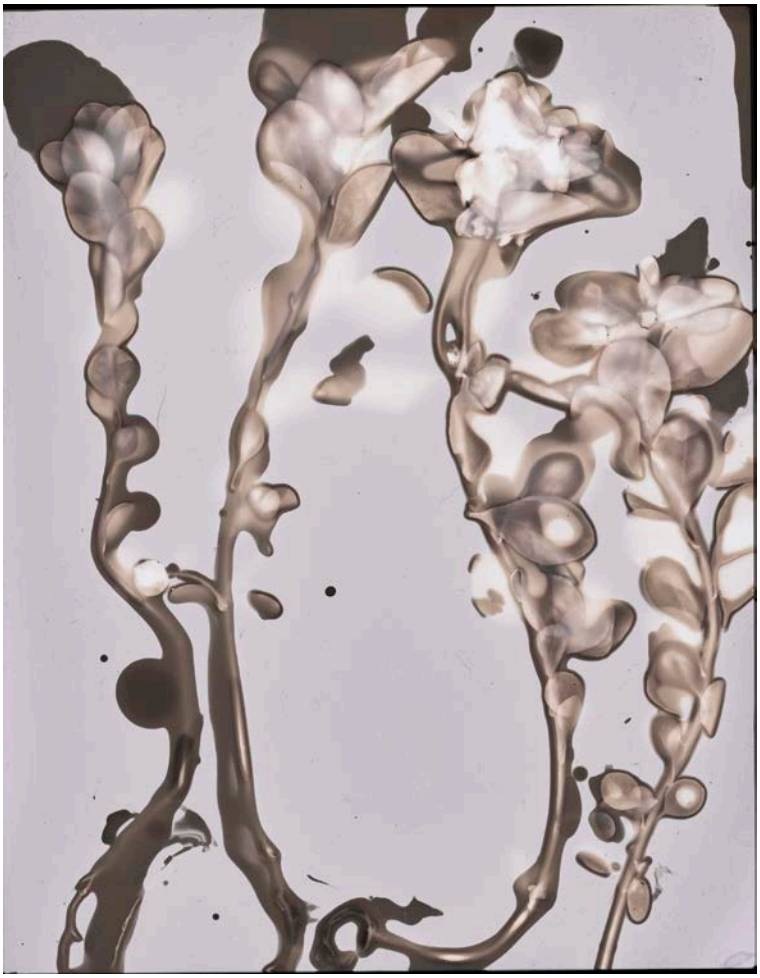


Plate 6
Untitled, 2022
Lightbox, Phytogram on 4” x 5” sheet film

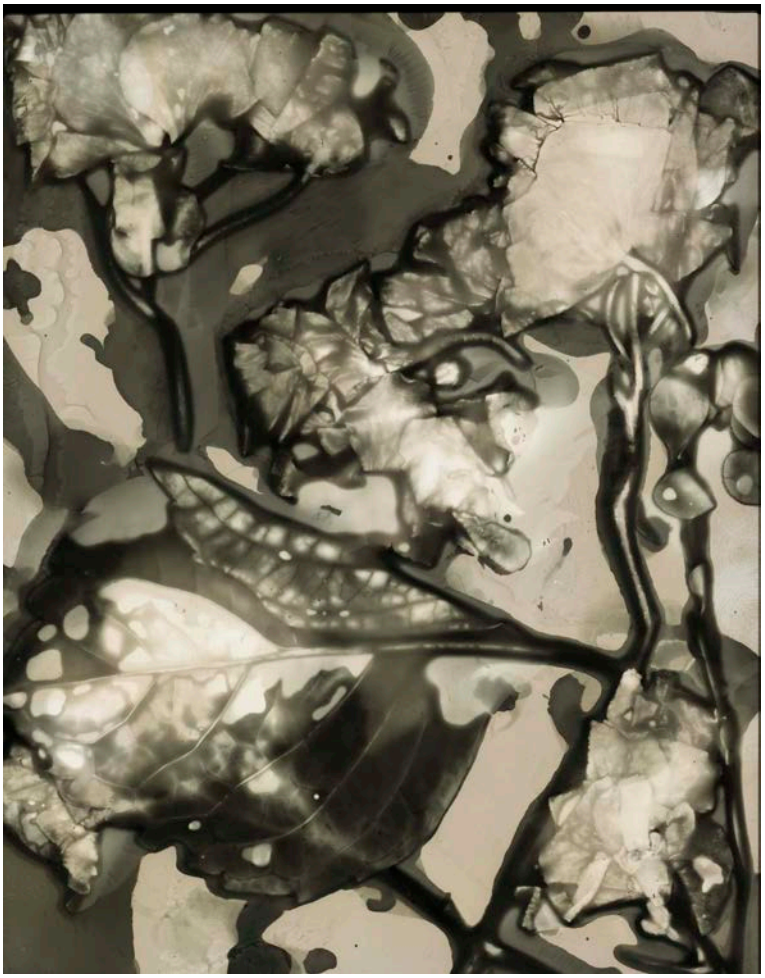


Plate 7
Untitled, 2022
Lightbox, Phytogram on 4” x 5” sheet film

Plate 8
Untitled (garden), 2022
Photographic installation

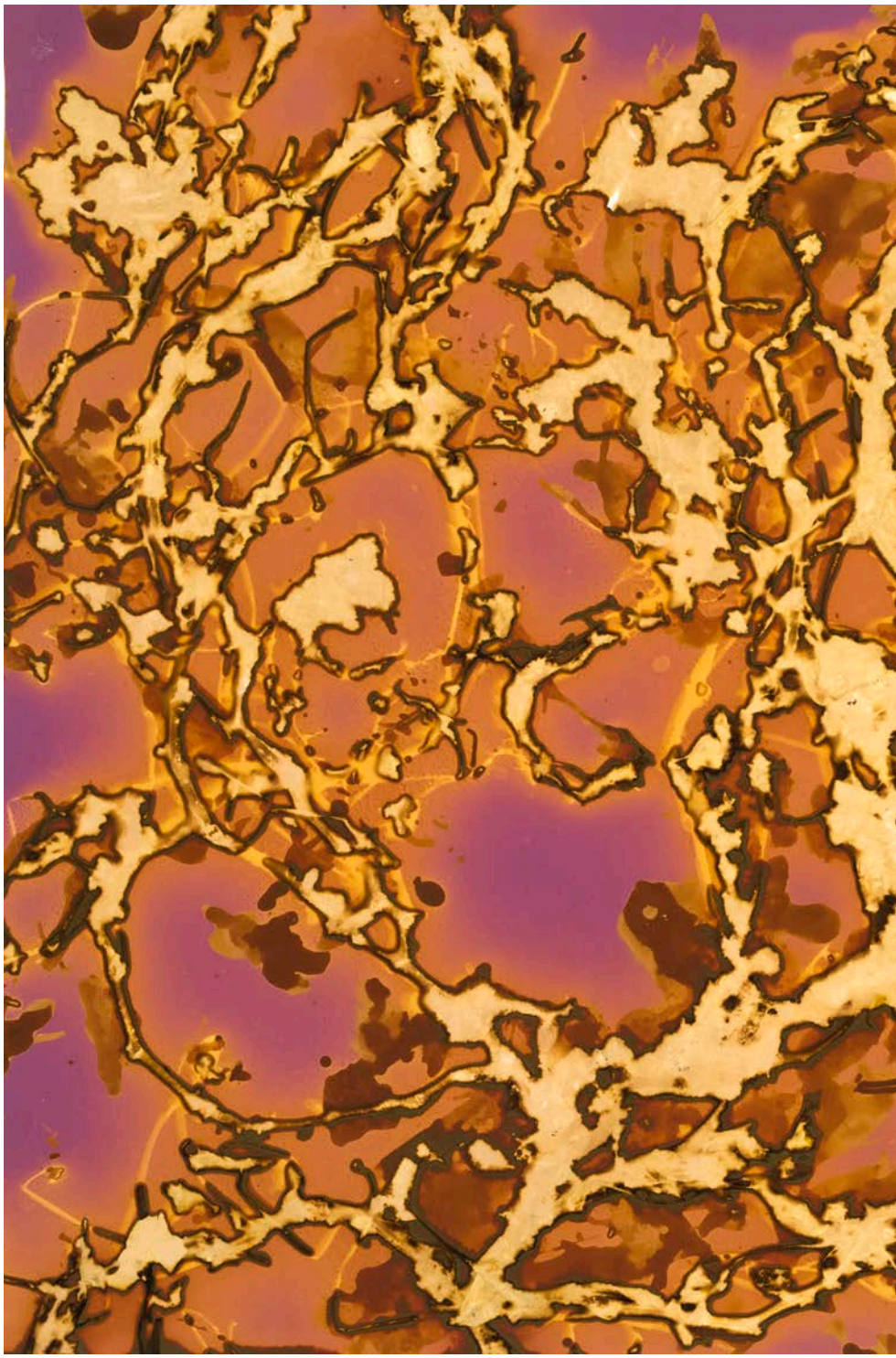


Plate 9
Untitled (garden) (detail), 2021-2022
Organic chemigram

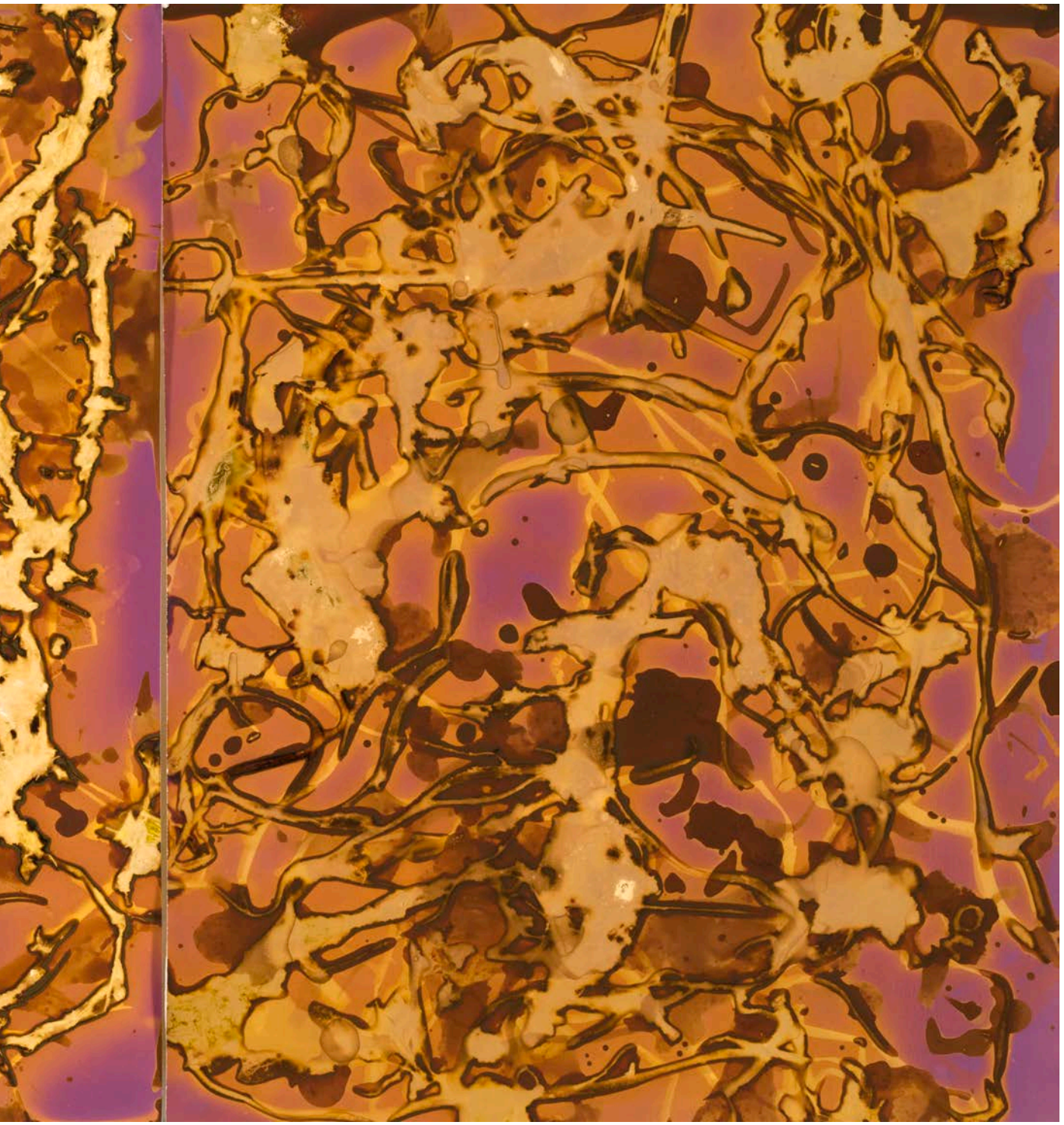
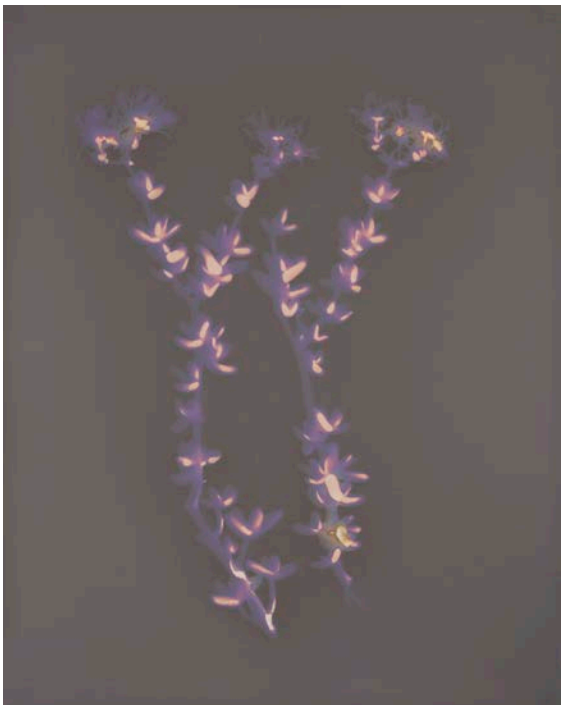


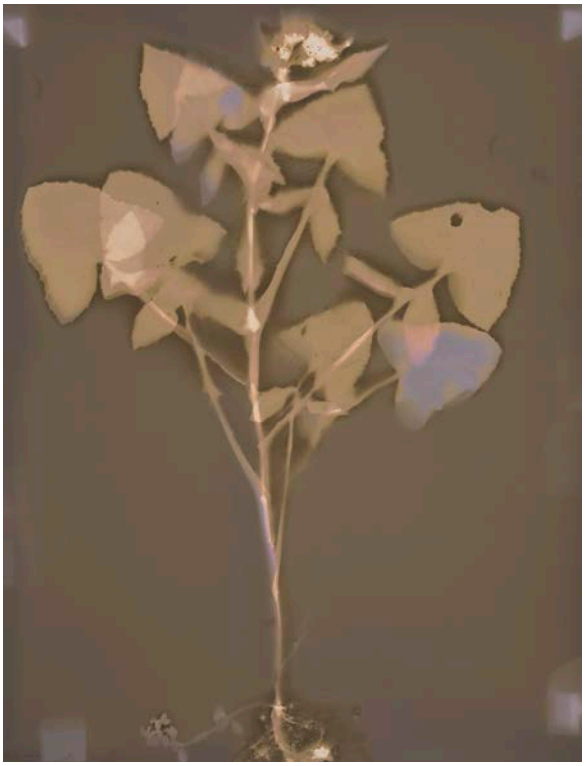
Plate 10
Untitled (garden) (detail), 2021-2022
Lumen print

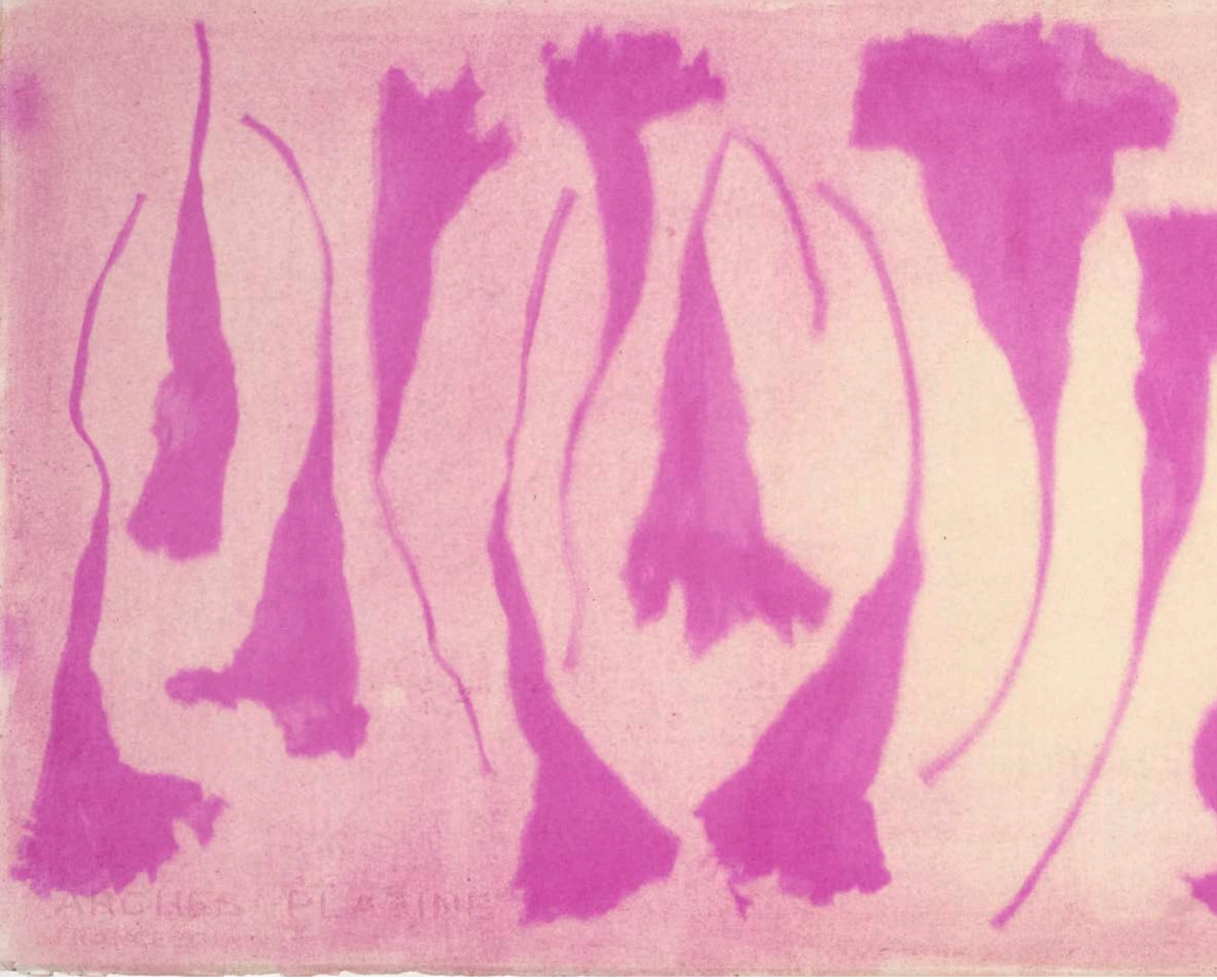
Plate 11
Untitled (garden) (detail), 2021-2022
Lumen print

Plates 12 & 13 (top)
Untitled (garden) (detail), 2021-2022
Lumen print

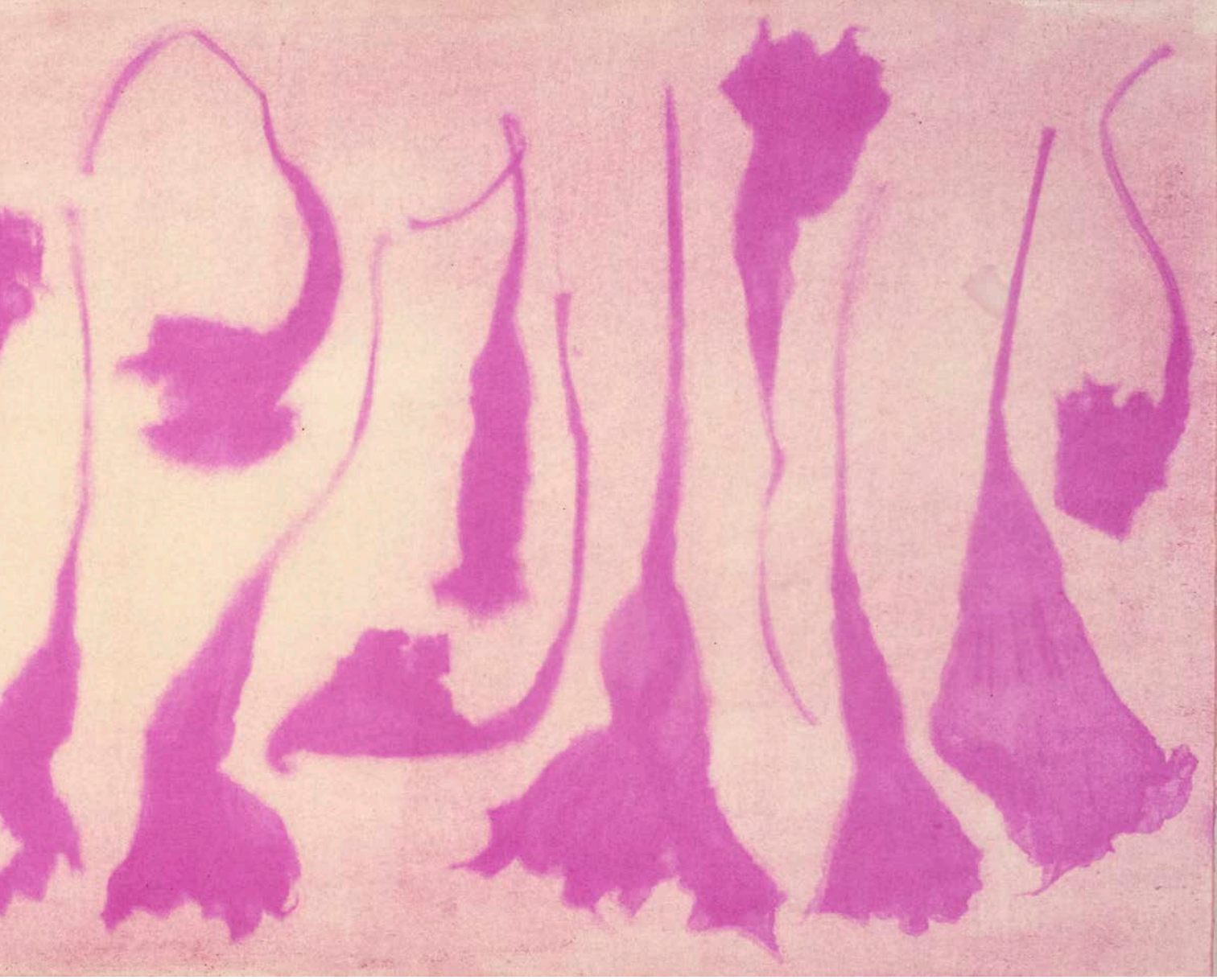
Plates 14 & 15 (bottom)
Untitled (garden) (detail), 2021-2022
Lumen print







Platre 16
Untitled (garden) (detail), 2021-2022
Anthotype



Platre 17
*Untitled (garden) (*detail), 2021-2022
Anthotype

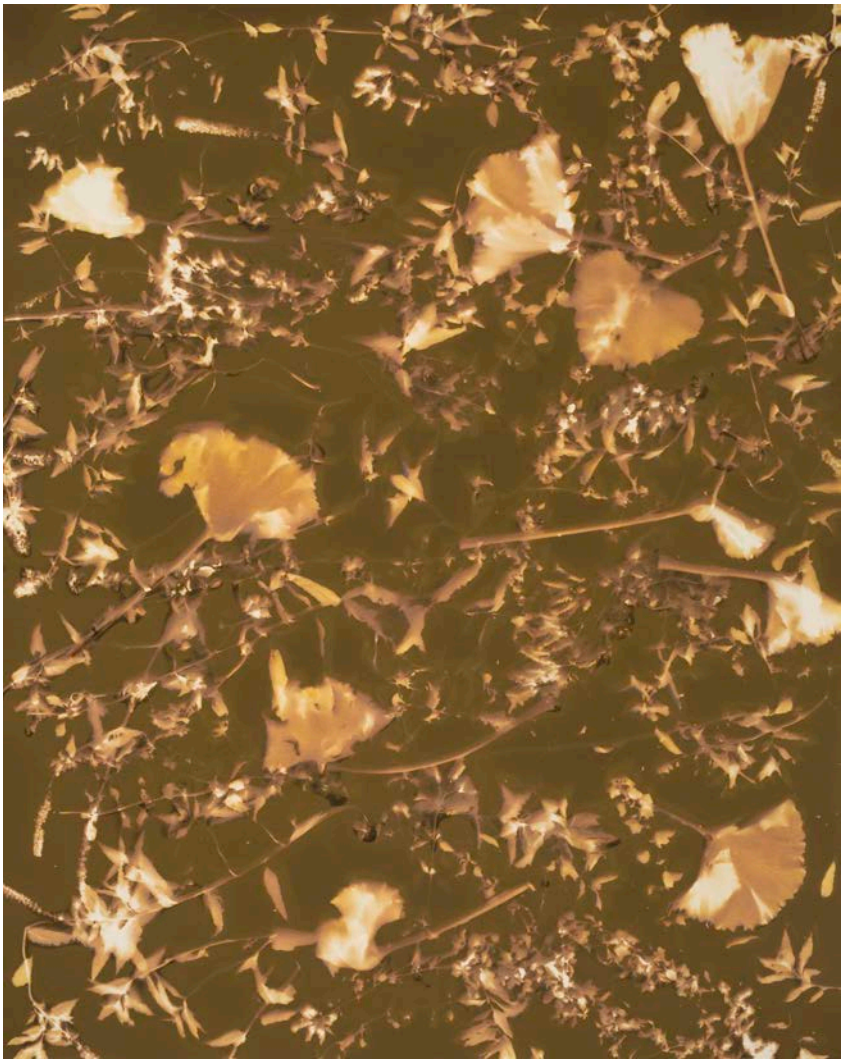


Plate 18
Untitled (garden) (detail), 2021-2022
Lumen print

Plate 19
Untitled (garden) (detail), 2021-2022
Lumen print

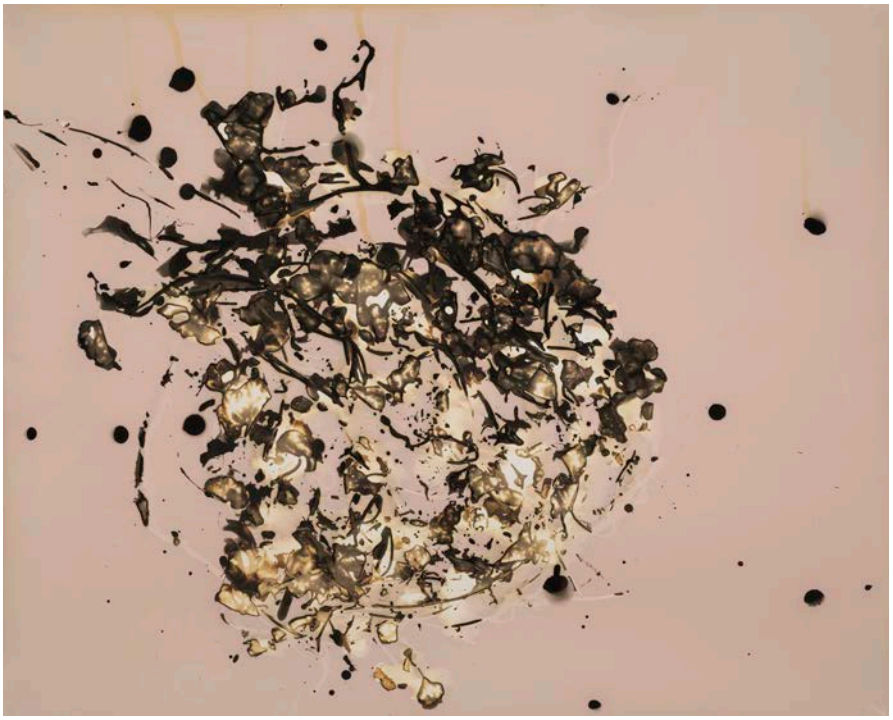


Plate 20
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Phytogram

Plate 21
Untitled (garden) (detail), 2021-2022
Lumen print, gunpowder residue

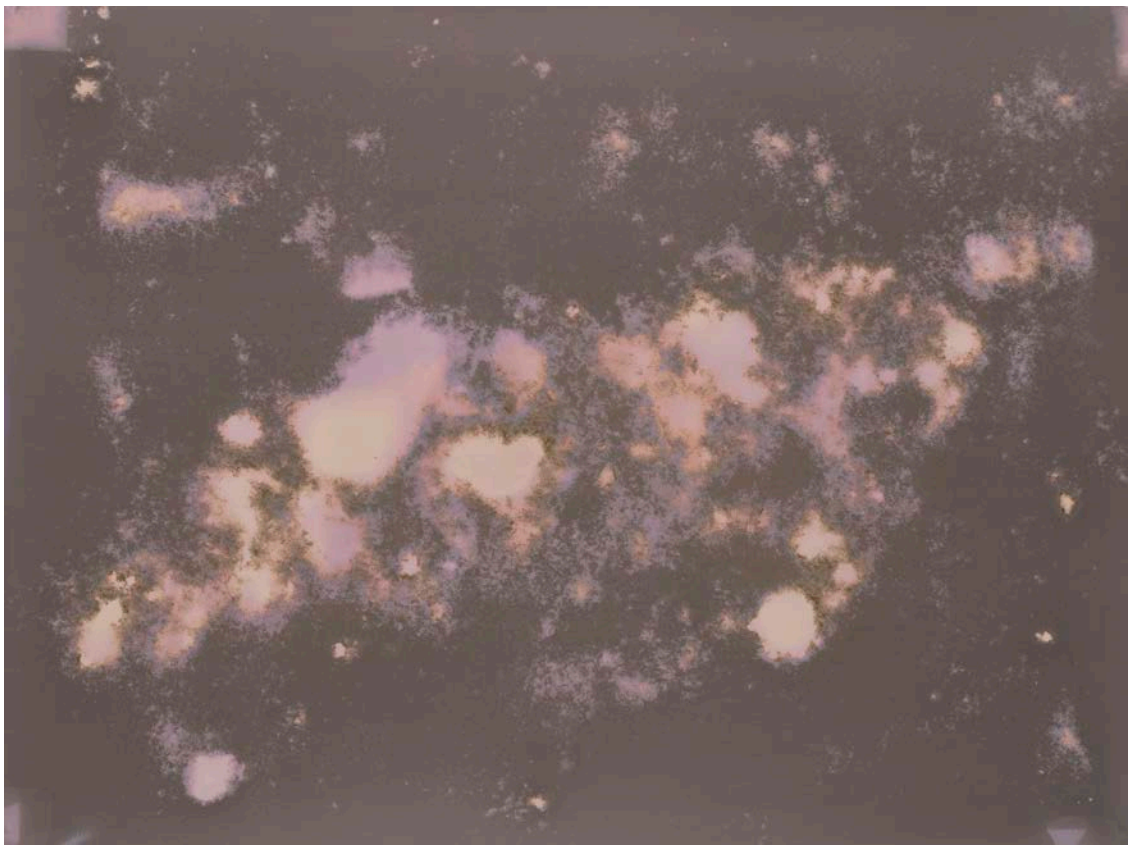

Plate 22
Untitled (garden) (detail), 2021-2022
Lumen print

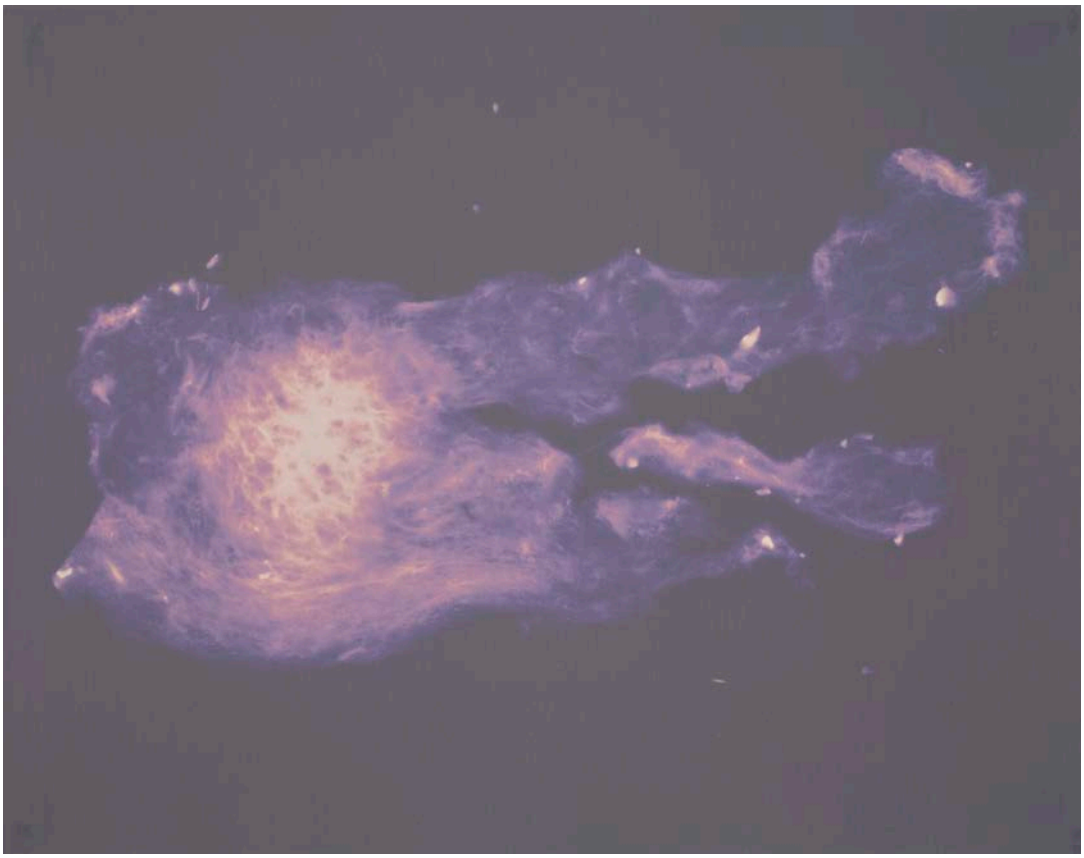

Plate 23
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Lumen print

Plate 24
Untitled (garden) (detail), 2021-2022
Lumen print

Plate 25
Untitled (garden) (detail), 2021-2022
Lumen print

Plate 26
Untitled, 2022
Lumen print
2,2m x 1m

Plate 27
Untitled, 2022
Lumen print
2m x 1m

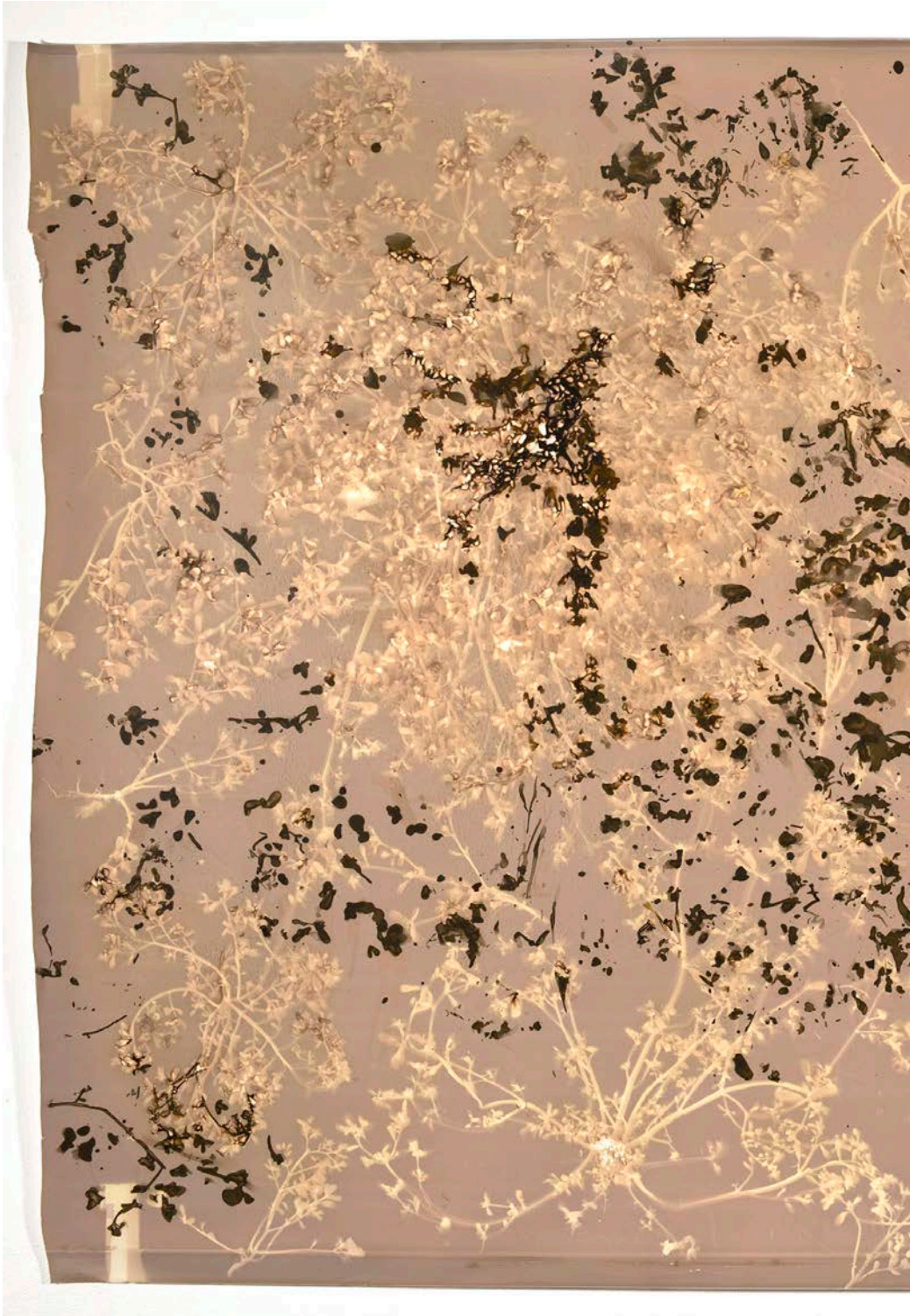


Plate 28
Untitled, 2022
Phytogram
1,8m x 1m

Plate 29
Untitled, 2022
Phytogram print
2m x 1m

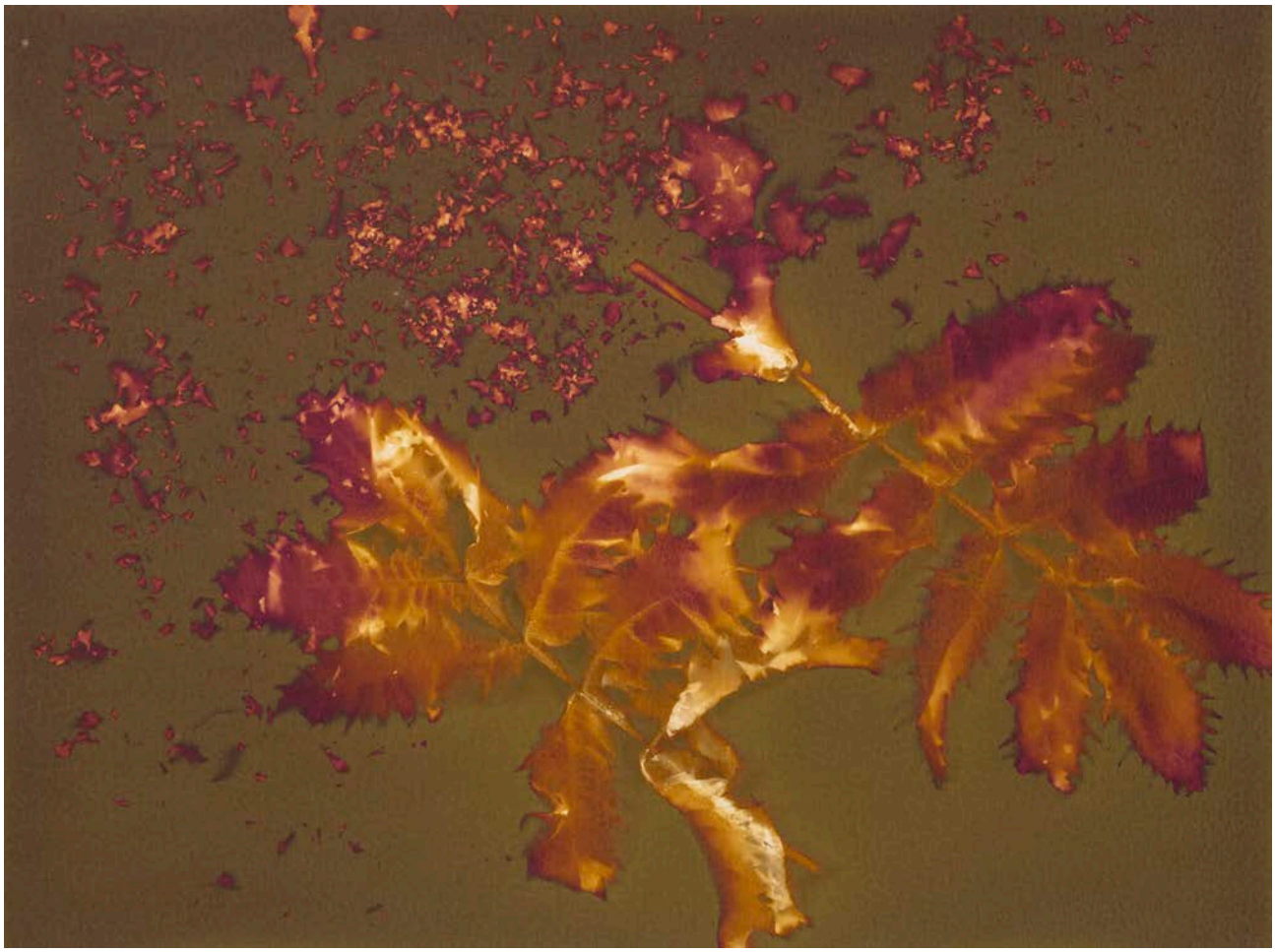
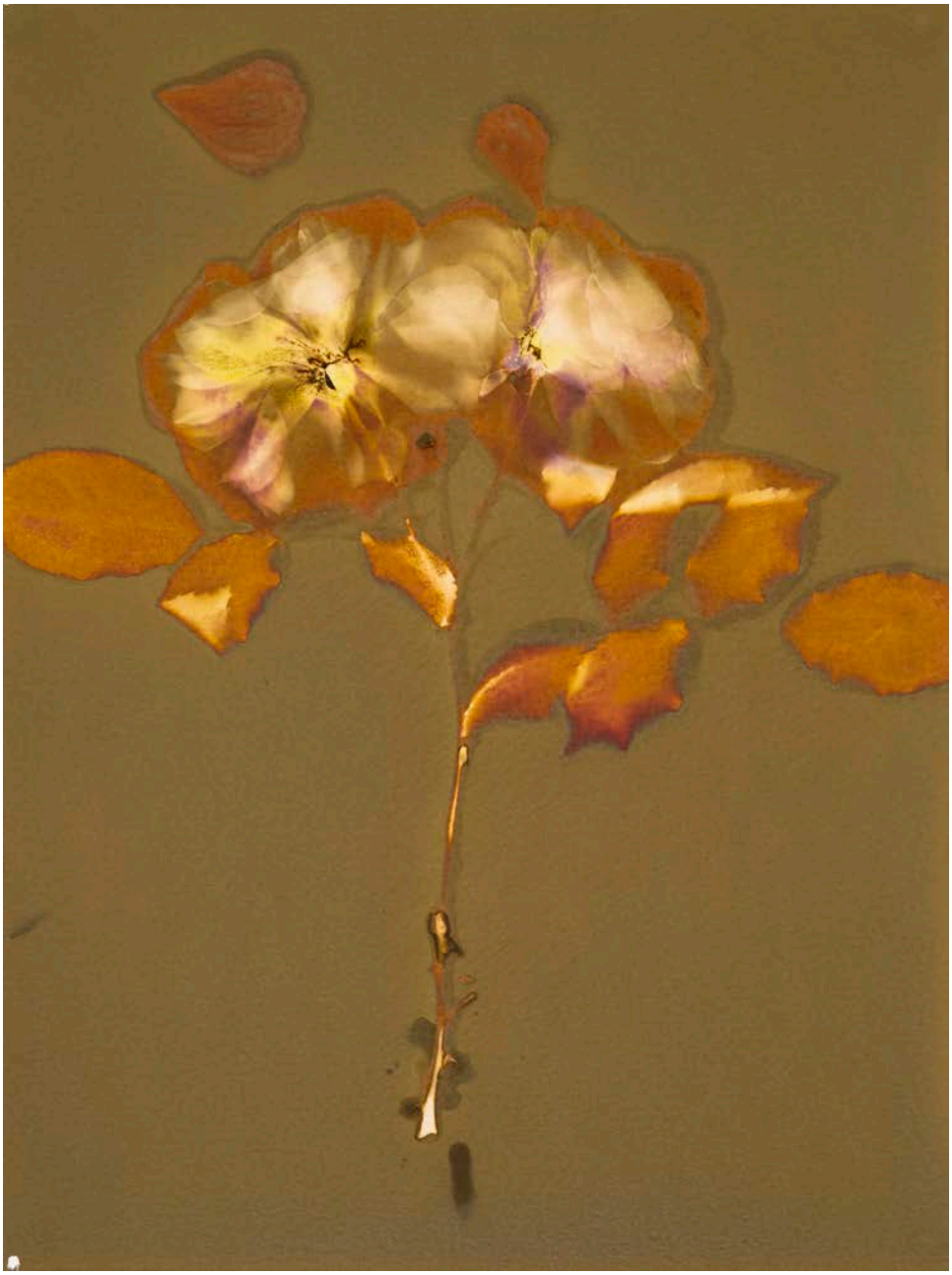


Plate 30
Untitled, 2022
Lumen print
35,56 cm x 29,94 cm



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Untitled (Mom's Roses), 2022
Lumen print
29,94 cm x 35,56 cm

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Untitled, (detail) 2022
Phytogram

Plate 33
Untitled, 2022
Phytogram
5m x 1.5m

Plate 34
Installation view
Various film phytograms, lights, overhead projectors, lightboxes.

Plate 35
Installation view
Various film phytograms, lights, overhead projectors, lightboxes.

Plate 36
Installation view
Various film phytograms, lights.

Plate 37
Detail, light installation. Ambrotype/phytogram lightbox.

Plate 38
Detail, light installation. Ambrotype/phytogram lightbox.

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