

## **Drawing Dust**

Dr Johanna Love, [J.love@camberwell.arts.ac.uk](mailto:J.love@camberwell.arts.ac.uk)

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### **Abstract**

Over the last few years I have become increasingly interested in how the material power of dust can be explored through the affective process of drawing to generate a new way of looking at the inevitable disintegration of the material world around us. This paper will discuss a body of drawings and prints that show how art and science have very different ways of investigating and communicating the world around us. I am looking to science to provide an image, a particular view of the world, generating otherwise inaccessible information, but I then use a material art practice to incorporate things that are beyond the reach of science, things that science cannot engage with; the emotional, irrational, imaginative and historical way in which we live. The body of work under discussion emerges from a research project undertaken in collaboration with an expert in the field of scientific imaging and analysis to examine particles of dust. The project considers dust as an overlooked and valuable material archive that can speak in a new way about human history and our material lives. Using state-of-art scientific technologies I am able to make visible otherwise invisible particles of dust, the material that persists and remains, omnipresent evidence of past existence. Key to the project is how the technological image that emerges from scientific analysis looks unlike anything we ordinarily see around us. The technology used to produce the scientific image creates something that seems distant, disconnected from our experience. It is this disconnection that drives me to use the slow pace and the tactile, material body of graphite drawing to transform the image using the eye and the hand, in order to re- connect it with a more human, understandable way of knowing about the world.

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My interest in dust crept up on me in the middle of my PhD research project and quickly took a position at the heart of my interests as an artist, academic and researcher. The physical and metaphysical implications of dust are able to speak about many of the things I am interested in; time, memory, material and history. Dust is everywhere, it is in the air we breathe and on the surfaces, we touch. Within its material constituents is a microscopic world that can tell us about human experience and reveal stories about our lives and histories. In our material

world, everything becomes slowly covered in layers of dust, and as we look out at the world around us, through air, we look not at the dust but through the particles of fine dust in the air. This aspect of our experience of dust, as a veil through which we perceive the world, is one strand of my research, and something that has continued to interest me.

The first drawings of dust I made were copied from the dust settled on glass surfaces around my studio. These were drawn by hand onto the surface of photographic prints, images of an 'empty', spatially ambiguous view beyond. The intention of the drawing was to interrupt the photographic surface, visually and materially, evoking a more embodied sense of how we see through air that is mostly full of fine particles of dust. In his essay *A Dry Black Veil*, Brian Dillon describes the impurities in the air of European cities of the late 19th century as a '*thick impure mist*' (Dillon 2009: 1), that Modernity, perhaps, strove to escape. Both natural and man-made events stir up huge amounts of dust within the air. In *The Natural History of Destruction* (2003) W.J. Sebald described how a thick cloud of dust lingered in the air above the city of Hamburg during the WW2 bombing and blocked out the daylight, leaving a '*...leaden gloom above the city*' (Sebald 2003:). We come from dust and we will decay to dust, and in between it affects our lives in many ways that we are only just beginning to understand. In the ultra-clean laboratories of the space agencies in Europe, the USA and Japan scientists are studying dust returned from the moon, comets and meteorites to understand the very origins of our solar system. Cutting edge methods are being used to examine dust for information about ecological and environmental change and the impact of dust on health. For example, a research centre dedicated to the analysis of fine dust has recently opened in Seoul and the Earth Sciences Research Institute, Amsterdam, which catalogues the number of contaminants in indoor dust and air.

It was in the act of drawing on the surface of photographs that I began to understand how vital the process of drawing is within my art practice; how the process of drawing in pencil, by hand, asserts surface, evokes a sense of touch, amplifies physical material and shifts our spatial perception of a photographic image, thereby creating a new space for thought. Initially I drew particles of dust at a scale visible to the naked eye; hair, clumps and specks of matter easily caught and seen on the surfaces around us, however, I soon wanted to look closer at dust, beyond the power of the naked eye. The subsequent work draws our attention to dust's shape and surface, only visually accessible and made more understandable through state-of-the-art scientific technology and apparatus. The work exploits the fact that it is only through

this technology that we are able to experience this different view of the world. I approached Dr Alex Ball, Head of Imaging and Analysis at The Core Research Laboratories in the Natural History Museum, London. Deep underground, beneath the museum's exhibition spaces, are the research laboratories, where scientists and researchers are examining the world at a microscopic level, questioning what things look like and what they are made of – the matter of things – the skin of an earthworm, the delicate wings of butterflies, the eye of a fly. The scientists are collaborating with researchers working on projects that explore beneath the surface of things, investigating the invisible world beyond the scope of human vision. I approached Dr Ball, asking to look at a small sample of dust under an electron microscope. I wanted to see what the dust really looked like and what it consisted of. I initially took the dust from the drawing and print studio (graphite and carborundum). I prepared samples within the laboratories and then used the scanning electron microscope (SEM) to reveal the individual dust forms. The scanning electron microscope is capable of resolving features smaller than 100 nanometers in diameter, 1000 times smaller than the human eye can resolve. This process enabled me to isolate and generate photographic images of each particle's form.

The photographic image generated by the scanning electron microscope is immediately different from everyday photography and our accustomed visual experience of the world (Figure 1). Through the electron-microscope a black and white image emerges which shows us exactly what the sample is made up of. The images are optically clear and sharp, and important data can be obtained looking at structure, scale, form, helping us see the facts. These images emerging from scientific imaging technology were alien, strange, grey in tone, appearing quite monstrous as lonely fragments against a dark background surface. The forms could almost be read as distant lunar landscapes. At the same time as looking through the scanning electron microscope I was also examining the original NASA photographic prints held at the Inter- planetary Sciences archive at UCL. It was interesting to see how images emerging from both the NASA scientists and the Natural History scientists could almost be read as the same thing. I was surprised to find that while looking at these 'scientific' images my imagination seemed to be drawn into the depths of the unknown, and I experienced a sense of a more mysterious world, rather than any factual understanding. Where Dr Alex Ball was explaining scale and the material constituents of the dust samples, I was more excited by its potential to stir the imagination and evoke narrative. This difference in intention between a scientist's examination of the world and that of an artist led to an avenue of philosophical

consideration for the research.

A philosophical framework for the project began by looking at how, since post-Enlightenment, art and science have used very different methods of visualisation and communication. A number of philosophers of science draw our attention to the problem that scientific images and representation appear removed from everyday life, alien and/or inaccessible to non-specialists. In his essay, *The Manifest Image and the Scientific* (1999), Bas C. Van Fraassen examines the gap, and raises the problem between the way in which scientific images show us the world and how the world appears to us every day. He explains ‘... *the Scientific Image is astonishingly different from how things appear to us. Yet science is meant to represent the very same world in which we live -- and there is the rub.*’ (Van Fraassen 1999). Van Fraassen examines the philosophy of Wilfrid Sellars (1963) who proposed that there were two world pictures, one manifest image and one scientific image that are in irreconcilable conflict. Van Fraassen’s essay begins ‘*Let me begin with a question: how well does science represent the world? How well does it describe nature, us, and our relation to nature? Does it give an adequate, exact, accurate picture, which shows what there is in the world and what it is like?*’ Van Fraassen is asking, what if science is not the only valid way of knowing? The phenomenological thinking of Maurice Merleau-Ponty also chimes with this suggestion that the scientific image is one that is removed from human experience. In his essay *Eye and Mind* (1964) he suggests; ‘...*science manipulates things and gives up living in them.*’ (Merleau-Ponty cited in Cazeaux 2000).

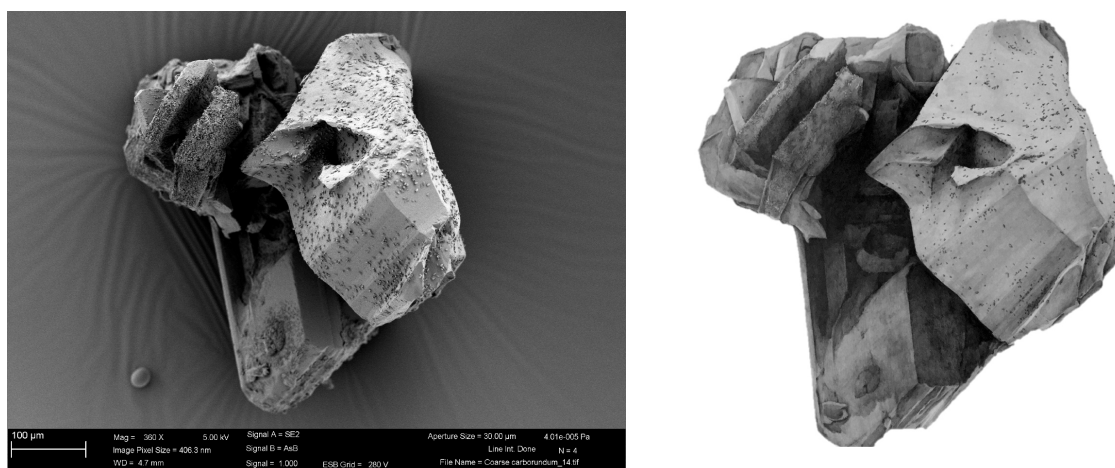


Figure 1, Digital SEM photographic image and resulting drawing, *Beleuchten I*, graphite pencil on paper, 120cm x 140cm

It is this sense of the disconnection with anything experienced before when looking at these photographic images emerging from the SEM that led me ask if drawing could communicate in a way that could be more accessible, more aligned with how we experience the world around us. I took the images into the studio and used drawing to attempt to bridge the gap between our experience and this alien scientific image (figure1). I drew with graphite and pigments on large-scale paper surfaces, using the process to reconnect to human perception and bodily experience, producing representations that make use of the affective nature of drawing. In this way, the scientific technological image is used as a starting point but then undergoes a material and imaginative transformation.

Historian Henri Focillon (1989) explains, *'The artist touches, he feels, he reckons weight, he measures space, he moulds the fluidity of atmosphere to prefigure form in it, he caresses the skin of all things.'* (Focillon cited in Paterson 2007: 88). Focillon is referring to the artist's traditional process as a decisive contact, a somatic sense of manual making, of touch, weight and measurement. His explanation of the caressing of skin seems to be completely at odds with the experience of the scientific technical photographic image which involves apparatus and which holds the image away from the human hand until printed upon a physical surface. So, it is through the process of drawing, by extracting details, playing with scale and generating a tactile, physical surface I combine observational representation with imagination. In this way, I attempt to bring the image back into a physical material world of life and imagination, to generate a new curiosity about the knowledge revealed in examination of dust. Within my practice drawing becomes a process of caressing of the skin surface of paper, where I am able to reaffirm drawing as matter of weight, reconnecting the image with a perception of scale, surface and material. As Jean-Luc Nancy suggests *'...such touching, or such a touch, is the sole condition for true thought'* (Nancy 2008:17). This also chimes with the thinking of Merleau-Ponty (1942) in his assertion that we experience the external world through our entire body (Merleau-Ponty 2002: 353).

If dust is present, something material must have dissolved, oxidized, or decayed, it is the entropy of matter. By being present it therefore draws attention to the absence of that from which it has emerged. If dust appears it signals the existence of both its material presence also the disappearance of something else that we can no longer see. The initial drawings I made were of particles of graphite and carborundum dust, collected from the studio, however, as I worked on this project it became more important to me that this dust was collected from

a particular place. Having considered this, I wanted to explore how dust may be considered as an archive of place. Most of my practice is informed by my German heritage. My father's old family home stands near the centre of the city of Hamburg, Germany, and is one of a few that remained standing and withstood the heavy bombing of the city during WW2. This house has been a significant place for our family as a reminder of our history. I was interested in this house as a container of the events of the past. In parts, the house has remained undisturbed since before the war. I was interested to consider this house as standing witness to the past, to history and as an archive full of fragments of matter – generated by the people who inhabited it and the buildings and environment around it.

As part of this project I went to Hamburg to the house to collect dust from the areas that had been left alone - the attic and the cellar. My grandmother told me that they used to store the coal in the attic to keep it dry. Maybe I would see traces of this in the samples? The cellar is a series of small low crumbling tunnels with an old window to one end. Dark and full of rubble – here it was harder to find areas where I was able to dig deeper to older dust. I also took a series of documentary photographs and took away material that seemed to be part of the original cellar. At this time, I was learning how rich the possible range of dusts' constituents might be. As our material world inevitably disintegrates, dust contains the very '*essence of existence*' (Denes 1989: 5) the visual evidence of entropy. As the homogenisation and eventual collapse of the material world, living and decayed, natural or artificial, dust can be seen as both raw material and a metaphor for the disintegration of the entire material world. As Joseph Amato explains:

*'Out of (dust)... things are made; into it they dissolve. So constant, so pervasive, dust, aggregating and disintegrating, gauges matter on its way to and from being. So dust would seem to measure history and the historian, not the reverse'.* (Amato 2000: 5)

The reference to dust as raw material and metaphor may be traced back to Biblical references, where it was written that man is dust and back to dust man will go (Genesis 3:19 King James Version), a reassertion that after all, man is material, and, as Italian historian and critic Elio Grazioli suggests in his book *La Polvere nell'arte* (2004), '*after death the body becomes indistinguishable from a pile (of dust) on the ground*' (Grazioli 2004: 2). The dust circulating around us as we breathe every day is termed 'the personal cloud' according to research undertaken by Lance Wallace, an environmental scientist. As Wallace explains:

*'...you breathe about 700,000 of your own skin flakes each day. And the rest sink slowly to the floor – or entangle themselves in the fibers of your sheets, or work their way into the couch cushions...'* (Wallace cited in Homes 2001: 166).

This aspect of dust is employed in the field of forensic science, of course, where people are identified through traces of minute particles of bodily matter and fluids. Through dust we can uncover our own material history, it holds the secrets of both our past and future (Holmes 2001:13) as *'dust is the immutable, obdurate set of beliefs about the material world, past and present...'* (Steedman 2001: ix). The dust I collected from the house may therefore still contain traces of my family. If I were to be able to analyse all the dust in the house, it may therefore bear traces of all that it has witnessed, all those that have visited and more. It becomes an archive of history. Contemporary artists who have already employed the potential of dust in their work include Cornelia Parker, who collected the dust from Freud's couch for her work *Exhaled Blanket* (1996) and German artist Wolfgang Stoeker in his project *My Empire of Dust*. For this project he works in collaboration with environmental scientists, collecting samples of dust that has gathered within various important buildings around the world to create a vast inventory of the material world. He sees dust as a mirror of the world, an archive that reveals the activities and histories of places and people.

Travelling back to the UK I felt I had carried the house with me – its insides. I saw the dust collected from the house is an archive, evidence of the human events and stories of its past, to be made visible in a new way, for the first time. The images emerging from the SEM were very different from my previous images of graphite and charcoal. They were each unique and revealed samples full of dead plant matter, pollen, man-made and organic fibres and rubble. I took these images into the studio and made large individual drawings of the particles.



Figure 2, Beleuchten IV(Neumunsterschestr.) 2017, graphite pencil on paper, 120cm x 140cm

In making these drawings, through scaling up small photographs to works of over a metre in width and height, the image, at first sight almost photorealistic, shifts and changes. The rhythm of the hand's mark, the textures of the paper and graphite assert a tactile presence and the scrutiny of detail connects with the what, who and where of time and material. The images are drawn from a sterile technological space into something more akin to how I experience the world.

Another body of work has emerged through the process of drawing through stone lithography. As I engaged in this medium, I became interested in how the process of drawing onto lithographic limestones slowed the process of drawing even further, whilst seeming to embed the drawing within the stone surface (Figure 5). The appearance of the drawing took on the grain of the stone surface, becoming 'fossilized', embalmed within the stone. Although the drawing on the stone is only the first stage of the making of the lithographic print, this stone drawing became as important to me as the printed drawing.

In *Tractatus Logico-Philosophicus*, the Austrian philosopher Ludwig Wittgenstein (1922), suggests '*...even if all possible scientific questions be answered the problems of life have still not been touched at all.*' As an artist, I am concerned with more than the appearance of things, not just what we look at but how we see and experience the world, with these



‘problems of life’. This is perhaps the rub of different images that van Fraassen suggests. At this point I decided to take the drawings further. The images presented ‘illusionistic’ drawings of dust on paper, I wanted to make them do something more, to assert more physicality, as dust is of time, of matter, of heavy things. Merleau-Ponty’s phenomenological analysis of visual perception within his essay *Eye and Mind* (1964) is important here. Merleau-Ponty argues that the experience of visual perception shifts away from the objective (Cartesian) gaze to the subjective body, whereby it is joined by other somatic senses along with thought to generate a deeper perceptual experience. Merleau-Ponty suggests that visual perception is not just obtained through the optical organ, but is joined by other senses to create a much deeper, a complex experience.

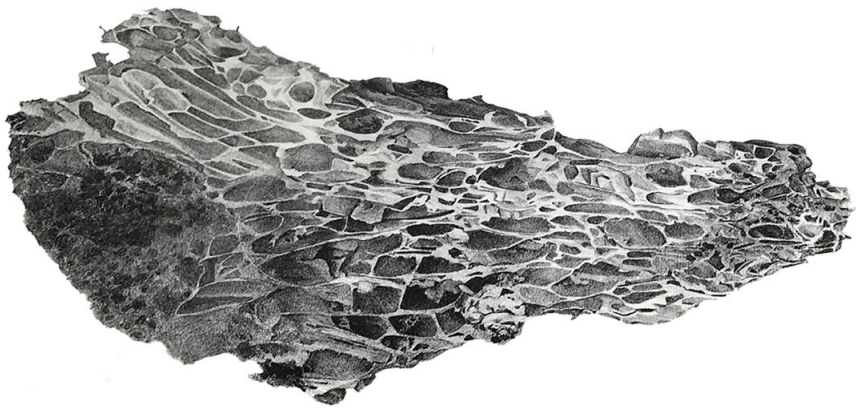


Figure 3, *Das Schweigen*, Stone Lithograph 40cm x 60cm

With this in mind I took the scientific images and drawings into the laser cutter to etch the images deeper into the surface of paper (figure 4). Again, the scientific image is the starting point but the laser etches the image into and sometimes through the paper surface. I then stained the paper with graphite ink and pencil, soaking and rubbing the ink and pigment into the surface of the image. As the graphite ink soaked into the etched drawing, the image appeared on both sides of the paper, the back surface stained by the ink soaking through to become a new drawing. The image embedded itself within the paper appearing on both sides, different versions of the source. The image suffered through the etching process and through the materials pencil, graphite powder and ink, muffling and choking its surface.

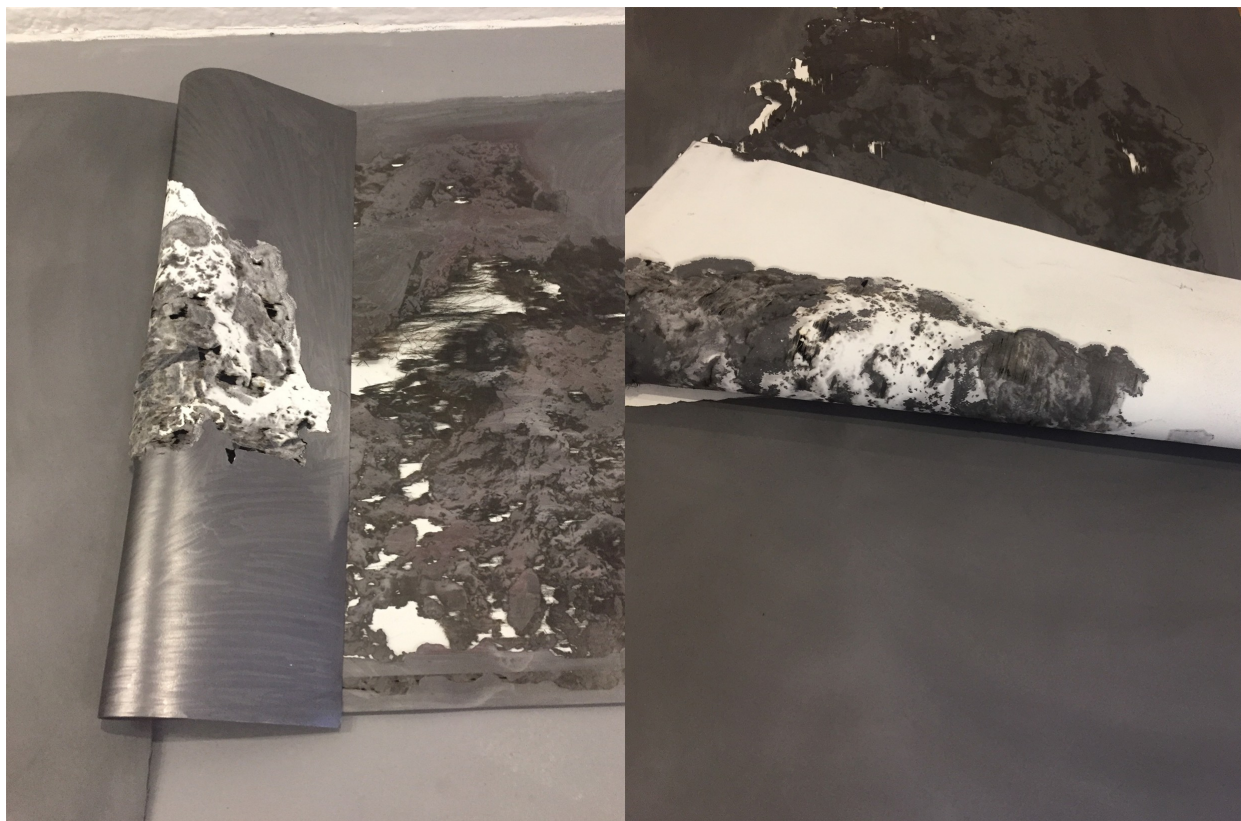


figure 4, Details of laser etchings with graphite ink and pencil, each sheet 100cm x 90cm

The fabric of the paper, nearly destroyed by the laser cutter, held tenuously together, fibrous strands on the brink of erosion. Looking at these pieces is like looking at a continuous shifting image that struggles to appear between paper and surface. As the pencil and graphite is applied by hand there is a feeling of incompleteness and the tonality differs as you move across. I was reminded of the work, *Live, Moments Ago (The death of Mike Brown)* 2014 by Swedish Kenyan artist Catherine Anyango Grünewald. In this work, we see the same paper surface being drawn, rubbed away and re-drawn, continuously, until it the paper surface falls apart embedding the idea of human suffering through the process of drawing. After this I began to make a further series of laser etched drawings with graphite ink and pencil which were exhibited in a solo exhibition in September 2019 at Standpoint Gallery London. Each single sheet was presented horizontally, slightly floating above the floor, as if fallen from the air, suggesting the settling of heavy clouds of dust, or leaden sheets floating and falling (figure 5). The leaves had substance and weight. Nancy's words came to mind:

*'... everything ends up communicating with weighing...it is a weight...it presses against other*

*bodies, right up against other bodies*'. (Nancy 2008:93)



figure 5, *Der Engel Schwieg* (The silent Angel), 3 part installation, laser etched paper with graphite pencil and ink, sheet sizes 100cm x 90cm.

In places the sheets folded over themselves revealing both front and back, like unreadable pages of a book, half opened, further complicating the way in which each image was seen (figure 6). Although all the individual pieces were made with the same graphite pencil and ink, where the light hit the curving papers, it interacted with each differently, generating continuously shifting tones on the dense graphite surfaces: from light grey to almost black, to gentled coloured hues where the burnt paper fibers mixed with the ink. This constantly shifting surface reminded me of the way the image on early daguerreotypes shifted with the movement of the hand. Though weighed down by material process of their making, the works in the Standpoint exhibition lay half open, delicate, quiet and still, drawing my mind back to the dust settling in my family house in Hamburg, witness to the catastrophic events of World War II Germany. Accompanying these drawings during the exhibition, was a small



video whose audio filled the entire space with the frail voice of my 94-year-old grandmother, talking in German and English, about her experience of living in the house through the bombing of WWII. As has been said, in some of the drawings the image was etched very deeply, to the point that the paper was rendered extremely fragile – on the point of disintegration (figure 6). In discussing the importance of touch in the work of Guiseppe Penone, Michael Newman wrote;

*‘We handle things to feel their mass; we tap them for their resonance, by which we can tell whether they are hollow or solid and of what they are made; we scratch them with our fingernails to test their surface, as if touch were less easily fooled than vision’. (Newman, 2004:103)*

As John Berger (1952) suggested, *‘to draw is to know by hand, through the point of a pencil or pen comes proof that the world is solid material’* (Berger 2008:102).

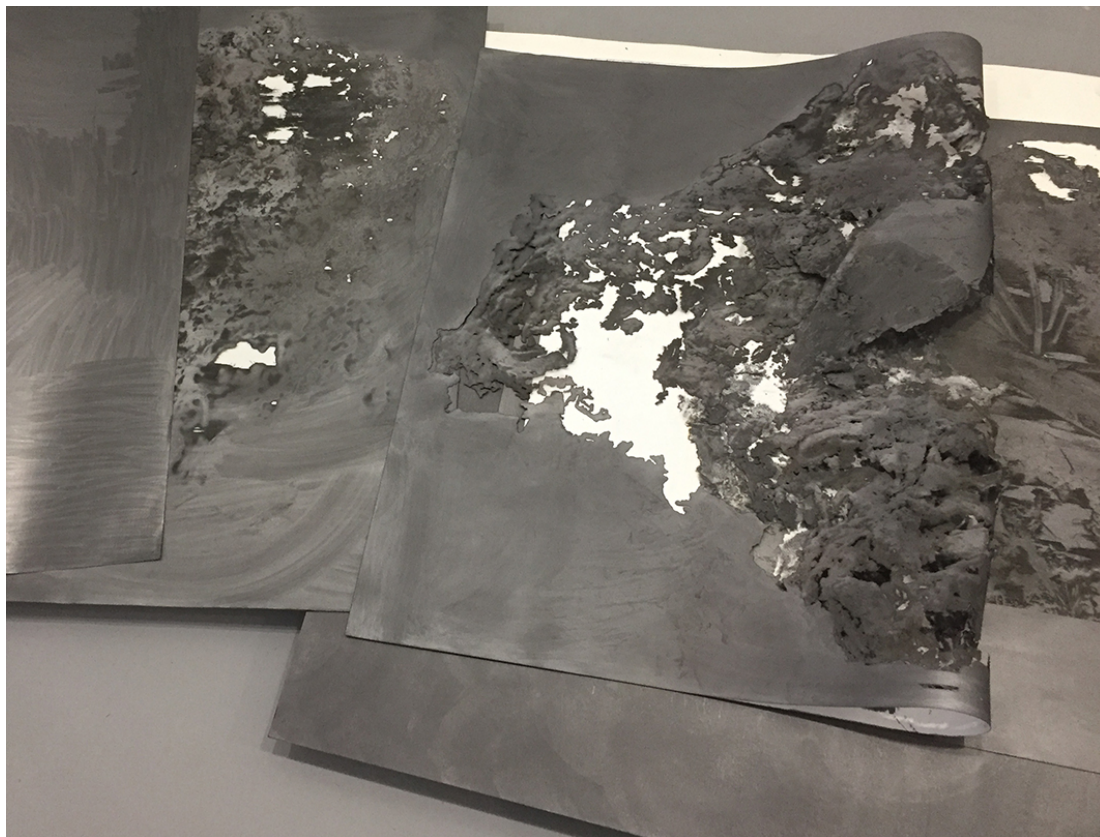


figure 6, Two folded drawings with graphite ink and pencil on paper, each 100cm x 90cm

So, where science allows us to generate an image otherwise impossible to see, drawing is able to communicate this image in a way that is perhaps more understandable to suggest

those words aforementioned by Nancy, Berger, Newman, van Fraassen and Focillon; weight, pressure, contact, solidity, material, surface, scratching and caressing the skin of things. As an artist, these are some of the ways in which I can communicate my experience of being alive in the world, through the process of drawing. Further, by the development and transformation of the original image through subsequent drawings, new elements creep in, almost unconscious decisions are made and the image casts off from its original moorings to explore and engage with Wittgensteins' unanswered 'problems of life'.

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## Artist Biography

Johanna Love is an artist and academic living in London. She is currently Pathway Leader for MA Fine Art Printmaking at Camberwell College of Arts and Senior Lecturer in Fine Art Printmaking at the University of Brighton. She completed a practice based PhD at Chelsea College of Art, examining the perception of dust and the photographic image. She exhibits widely both nationally and internationally. Recent exhibitions include: Under a Darkening Sky, Standpoint, London; Lunar Gardening, Kingsgate, London; Solo exhibition, Kloster Bentlage, Germany; Another Way of Telling, Vancouver, Canada; Johanna Love, GiG Gallery, Munich.

## Artist Address

285B Underhill Road, London, SE220AN

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