

AN ENTANGLEMENT OF ART AND SCIENCE IN PAPER

Johanna Love

INTRODUCTION

All the images I make, through drawing, digital or traditional print, end up in a kind of collaboration with paper. Paper not only supports these images but also materially evolves as the process of making takes place. For me, this transformative collaboration is incredible exciting and is central to the evolution of an artwork's meaning.

As a visual artist, I want to make images that aren't just about what we look at but about how we experience and perceive the world, that chime better with life's complexity, that are more metaphysically charged perhaps. This essay discusses this questioning through a series of artworks that intertwine different technologies of image-making and paper to test this relationship to extremes. This series of artworks attempts to evoke the emotionally charged power of a 15th century holy relic object, to speak about something unspeakable, about the shadow and weight of material and time. In a series of small bound paper books and large-scale double-bound paper sheets, I push the relationship between image and material to the limits. The image transforms itself in different ways, simultaneously appearing beneath, upon and between the paper, as if caught somewhere between a cobweb and a fossil.

This project explores a 15th century reliquary object held in Kloster Bentlage Museum in Germany (figure 1). [1] A large wooden case, displayed in half light, behind protective glass, containing hundreds of embroidered embellished fragments of bones of monks that lived in the Museum's former Monastery building. This is an object for worship, highly valued and revered. The reliquary is unique both in its scale and in containing not only the fragments of bones but also its own gathered dust, held in small glass vessels inside (figure 2). These fragments that were collected by conservators during restoration and placed back into the reliquary. The object was



Figure 1



Figure 2

Figure Titles and Information

Fig 1. Bentlage Reliquary Shrine, Kloster Bentlage, Germany. Photo Jo Love
 Fig 2. Close up, Bentlage Reliquary Shrine, Kloster Bentlage, Germany. Photo Jo Love

given back its own material history. This essay examines how I arrive at making works that attempt to embody and convey the power of this object through art.

SCIENCE AND DUST

The work emerges from an interest in the art/science relationship. I am fascinated by how we can move in and out of the zone of technology when making artwork from basic imaging processes such as photocopying to using the most advanced imaging equipment. Scientific technological imaging equipment such as telescopic lenses extends human vision upwards to the outer edges of the universe, and scanning electron microscopy (SEM) enables us to see the world that surrounds us in microscopic detail. In addition, energy dispersive x-ray spectroscopy (EDS) enables us to analyze the chemical composition of this material that we are unable to either see or touch.

Working with the Museum conservators and the Museum curator at Kloster Bentlage, and with scientists at the Natural History Museum (NHM) in London, I collected some of the dust in the reliquary to see what maybe present but invisible, to reveal a silent archive of the past. Through the subject and material of dust I feel I can speak about many of the things that interest me: of time and history, presence and absence. Dust, tiny microns in scale and invisible to the naked eye but nonetheless made present in front of us in an image. So, using this advanced technology I was able to make two kinds of images – both of the reliquary, but at two different distances, one familiar and one unfamiliar.

Dust is history; a silent archive of our disintegrating material world, it shifts restlessly across land and borders, seeking surfaces and objects upon which to settle. It covers and unifies everything. To the naked eye dust is a fine powder (Pulver), (Grazioli, E. 2004) incomprehensible in its ontology and appearing as miniscule grainy stuff. However, using the magnifying power of imaging technology, we can bring dust into the world of appearances and make it part of the everyday world around us, revealing a mass of physical matter, animate and inanimate, known and unknown, from the nearby to the most distant, from our recent past to billions of years ago (figure 3) (Amato, 2000; Dillon, 2009; Holmes, 2001; Steedman, 2001). This technology can tell us otherwise hidden stories and reveal new knowledge about our past.

With the collaboration of scientist Dr Alex Ball at NHM I examined this dust through SEM and EDS technology to see what was also held (but invisible) and therefore worshipped alongside the visible forms. I generated many digital images of the dust, exploring the materials and forms that traced the life and environment around the relic. Much of the dust sample contained organic plant matter and pollen as well as bone and wood (figure 4). Unsurprising as the Museum standing within a large forest.



Figure 3



Figure 4

Fig 3. A digital image of SEM stub sample containing dust from the reliquary, Photo Jo Love
 Fig 4. A digital SEM image of dust particle from the reliquary, Photo Jo Love

These SEM images revealed a world of strange unidentifiable grey forms which are both exciting yet also completely inaccessible. The scientific lens may bring us closer, but it also becomes distant and disconnected from the everyday world. In his paper *The Manifest Image and the Scientific Image* (1999), Bas C. van Fraassen asks,

...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?
(Fraassen,1999).

In relation to this I find it interesting to try to understand the difference between how I experience these SEM images and those I capture through my own camera. Bas C. van Fraassen goes on to examine how the world appears through science and through human experience. He explores clashes between science and appearances, examining the philosophy of Wilfrid Sellars (1963) who proposed that there are two world pictures that are in irreconcilable conflict, he suggests,

... 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.
(Sellars, 1963)

So perhaps for me it is this conflict and disconnection with everyday life and human experience that I feel when looking at these scientific images emerging. Merleau-Ponty's philosophical thinking really chimed with me here where he explains scientific image as one that is outside of human understanding, he asserts that '...science manipulates things and gives up living in them.' (Merleau-Ponty, 2002)

CAPTURING IMAGES THROUGH TECHNOLOGY

Two differences in distance and temporality emerge through imaging technology that chime with different ways of looking at the world. Images of the recognisable and visible world in front of our eyes are familiar, e.g. when we use a camera are akin to how we experience and perceive the world. But technological equipment that enables us to see beyond the power of human vision, near and far, generate images that are unfamiliar.

For me this technological image becomes as Vilém Flusser writes, an '... emerging universe, ... (a) dimensionless, imagined universe of tech-nical images ... (that has) a peculiar hallucinatory power,' and one that follows no rules. (Flusser, 1985) The technological image allows me to make images of the world that would otherwise impossible to make. It enables us to revisit images of the past and bring them into the present, and new Ai can possibly predict images of the future. We can intertwine different temporalities through technologies. Victor Burgin has described our contemporary moment of globalised streams and fast paced interactions as a journey of multiple histories and trajectories, as,



Figure 5



Figure 6

Fig 5. Photograph of laser etching an image into a sheet of 300GSM somerset paper, Photo Jo Love

Fig 6. Laser etched images of dust over digital prints on 300GSM somerset paper, Photo Jo Love

the assembly of simultaneously present events but who separate origins and generations are out of phase historically overlapping.

(Koeppnick, 2014)

As dust emerges slowly, the material world gradually disintegrating, technological speed can bring it into the present and help us understand the future. However, Lutz Koeppnick suggests in his book *On Slowness* (2014), 'Cell phones, handheld computers, and ubiquitous screening devices urge us to be always on and produce instantaneous responses, yet we no longer take the time to contemplate an image, develop a profound thought, traverse a gorgeous landscape... Or follow the intensity of some emotion' and we must 'Embrace slowness as a medium to ponder the meaning ...of being present today...' (Koeppnick, 2014)

In Don Ihde's discussions of the philosophy and phenomenology of science he argues that contemporary science maintains a primarily visualist mode and is often highly technologically mediated (Don Ihde, 2021). I feel sensibilities of working within the computer are an act of complete disembodiment. In Martin Heidegger's *Phenomenological viewpoint*, we are connected to the world through matter but ask where the connection of matter is within the digital image. This disembodiment, as lack of material of the human, also suggests Lyotard's notion of *The Inhuman*. Lyotard saw the transformation of the entire nature of the human system via technology as profound, as a disembodied intelligence. In Lyotard's essay *Can Thought go on without a Body?* (1991) he questions the very transformation of what he describes as matter, from 'corporeal, sensory, emotional and cognitive experience of a quite sophisticated but definitely earthly existence'. (Lyotard, 1991) to that of the technological mind of the robot, as a mind devoid of any earthly, or human elements. He questions the possibility of the technological mind, which may exist independently, after all human, bodily beings have vanished. He suggests that simulating conditions to make 'thinking' remain materially possible after the change in the condition of matter, would be disaster.

To see is to have colours or lights, to hear is to have sounds, to sense (sentir) is to have qualities.

(Lyotard, 1991)

What are the qualities Merleau-Ponty might be referring to, that we sense within an image made via the computer. Henri Focillon (1989) suggests, 'the artist touches, he feels, he reckons weight, he measures space, he molds the fluidity of atmosphere to prefigure form in it, he caresses the skin of all things' (Focillon, 1989). With the language of touch he composes the language of sight – a 'warm' tone, a 'cool' tone, a 'heavy' tone, a 'hollow' tone, a 'hard' line, a 'soft' line. So, an interesting paradox emerges in exploring dust. In seeing this most basic and metaphysical subject and material that holds the history of the physical world and all that is in it, we must use the most advanced imaging technologies that actually are the most far removed from how we see



Figure 7



Figure 8

Fig 7. Close up, laser etched paper with digital print on 300GSM somerset paper, Photo Jo Love

Fig 8. Close up, laser etched paper with digital print on 300GSM somerset paper, Photo Jo Love

and experience the world. Using printed imaging technology alone gives me pictures of the world, but as Samantha J. Fried and Robert Rosenberger discuss in *Postphenomenology and Imaging: How to read technology* (2021) they refer to Idhe to explain,

Looking at an image is not the same thing as looking at the world. We must find ways to emphasise how the act of perceiving the image and interpreting its meaning is a kind of human-technology relationship. Image usage involves an encounter with an object – a device, an artefact – that enables a perception of a technologically altered world.
 (Fried and Rosenberger, 2021)

Here then in this clash between human experience and technological imaging, there is duality in material, technologies, histories and temporalities. It is this that I want to explore in this work.

LASER ETCHING

To return to the 15th century holy relic, choosing the right image-making processes and materials that could convey the bodily, material and emotional weight of this relic was obviously important. Considering the metaphysical load of the reliquary object and the significance of the dust, this container of time and matter – I wanted to make these images of the reliquary do something more than sit upon paper's surface. How could this work in its entirety evoke the weight of this ineffable subject.

I questioned how an image might become more embedded within the paper, giving the image a sense of body. I took the digital printed images of the reliquary into the laser cutter, etching the microscopic images of the dust into the digital inkjet surface (figure 5), connecting two images of the same object but at two different distances (figure 6&7). Immediately an interesting multifaceted dialogue emerged, between the inkjet print, the burnt image and the paper itself. No longer as a passive single surface, the paper and the image of the dust intertwine, the scientific image is caught in between each side of the paper, hovering within and upon both sides, becoming a thin sculptural image that exists somewhere in space. The technological images actually sit inside the thickness of the paper becoming a thin sculpture (figure 8). As doubled sided works I stitched and bound the paper sheets to make a large series of books and doubled bound spreads. Here they can be physically handled, they have a weight or body, and they also have time and space to fall apart a little. I have exhibited these large double spread sheets on a low platform, folding over each other like fallen book pages to echo the weight of dust (figure 9). The etched parts become like lace, to be seen through whilst also holding together through paper fibres (figure 10). In some places the fibres begin to fall apart and disintegrate upon the surface.

In these works, the image, the process and material come together to speak about something much bigger than a static image. I feel I am attempting to generate a more complex image, one that intertwines



Figure 9



Figure 10

Fig 9. A photograph of two overlapping double bound laser etched and digital print sheets, Photo Jo Love
 Fig 10. A photograph of an open double bound laser etched with digital print sheet, Photo Jo Love

multiple trajectories and unites two distances and temporalities within the same surface. I think about Austrian philosopher Ludwig Wittgenstein words: ‘...even if all possible scientific questions be answered, the problems of life have still not been touched at all.’ (Wittgenstein, 2007) when considering this work as asking questions about complexities of life and time that are unanswerable and open. So, through the destructive power of laser etching, the transformative power of a collaboration between single sheet of paper and printed image, the work attempts to engage with profound questions about the how we live in the world.

FOOTNOTE

[1] In the Bentlage Monastery Museum , the two late Gothic reliquary gardens, which are unique in their form and size today, can be seen in a room that formerly belonged to the chapter house, which is darkened for conservation and aesthetic reasons. <https://www.kloster-bentlage.de/wissenswertes/reliquiengaerten/>

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AUTHOR

Johanna Love

Camberwell College of Arts, UAL; The University of Brighton

Dr Johanna Love is an artist, academic and researcher. She is currently Pathway Leader for MA Fine Art Printmaking at Camberwell College of Art, and Senior Lecturer in Fine Art Printmaking at the University of Brighton and scientific associate at Natural History Museum. Recent exhibitions include: For Want of Not Measuring, project78 Gallery / Solaris, UK; Planetary Scale, Filet Gallery, London; Zeichenen im Garten auf unendlichen zeit, Bentlage Museum, Germany. Recent awards include: international Scholarship for excellence in printmaking, ForderVerin, Bentlage, Germany, Tallinn International Drawing Biennale, Estonia, Münchner Künstlerhaus-Stiftung, Germany.

<https://www.johannalove.co.uk>

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IMAGE GALLERY

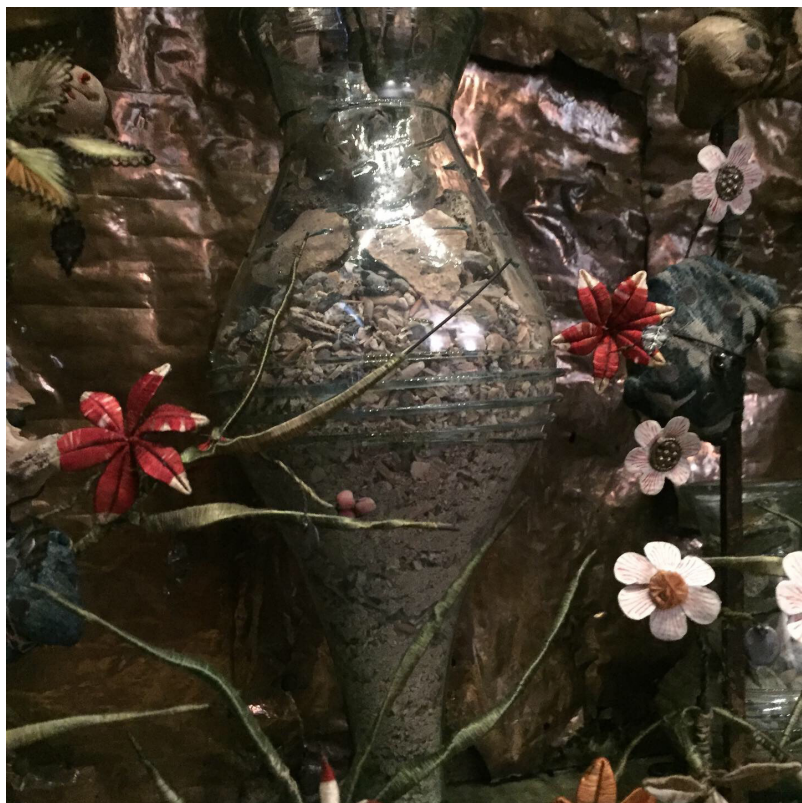


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Figure 2. Close up, Bentlage Reliquary Shrine, Kloster Bentlage, Germany. Photo Jo Love

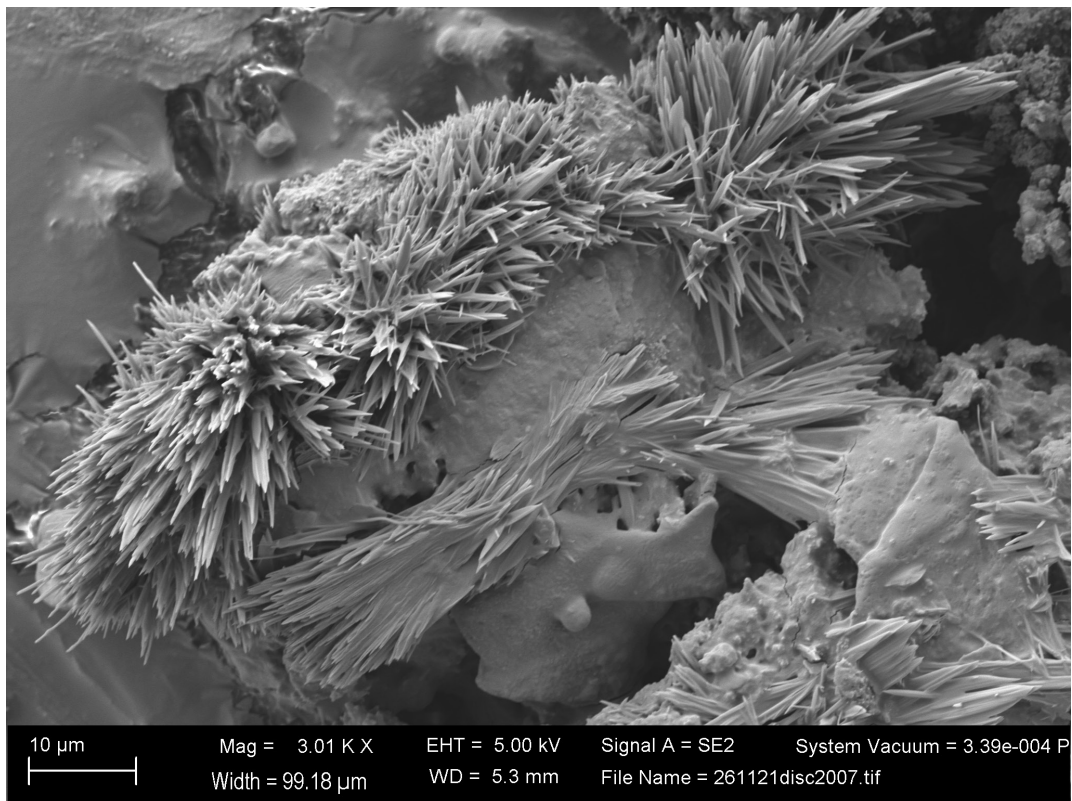
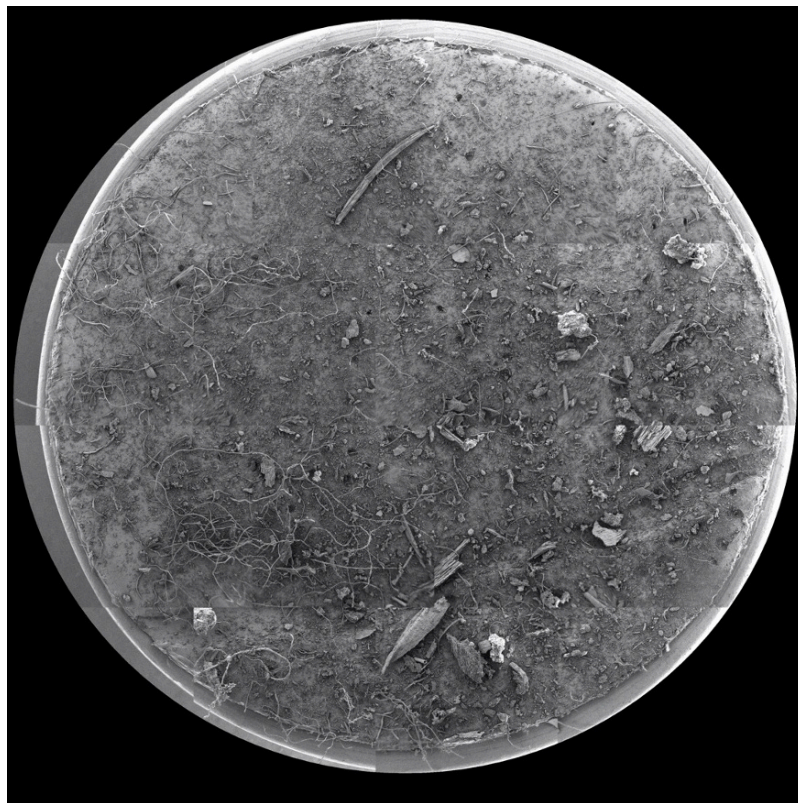


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