TRACEY

Journal

ISSN: 1742-3570

Drawing Anthropocene 2024

Volume 17
Issue 1

Loughborough University

ojs.lboro.ac.uk/TRACEY

Contents:

THEME

This edition proposes an examination of the relationship between drawing – a practice of traces – and the concept of Anthropocene. This is a timely lens through which to examine research engaging drawing in relation to current debates on environmental crisis and invite reflection on the value of drawing in the context of deep time.

The term *Anthropocene,* coined at the start of the new millennium by geochemist Paul Crutzen, denotes a new period of geological time, reflecting the extent to which human activity is making its mark on geologic stratigraphy. Essentially, for geologists, the legacy of the Anthropocene will be the traces that our existence will leave in the geologic record in times to come. We might even see this as a collaborative durational drawing spanning the development and demise of human existence!

While there remains debate about the precise starting point of the Anthropocene (and it has yet to be formally acknowledged by the International Committee on Stratigraphy), the concept is now widespread and in common usage as a byword for human impact on the environment. This tension provides a useful provocation, one that prompts questions about how drawing might function in relation to climate crisis and what knowledge it might produce. For example, drawing may examine areas of contention: petrochemicals and carbon release, resource extraction, more than human agency, migrations, or post-human and planetary futures.

Drawing is an activity of tracing, layering, erasure, the drawn mark often belies the process of its making. It has been called a “trace fossil” (Halperin, 2013). Over the course of the twentieth century tenets of drawing - arguably the trace of an action made over a surface – have been tested, stretched and exploded as artists embraced performance, land art, soundscapes as forms of drawing. Drawing now has many identities, from lines in sand, footprints in the snow, or vapor trails in the sky (Dexter, 2005: 6).

Acknowledging, as many do, that environmental traces - foot prints, tidelines – are a form of drawing, what might this offer for using drawing as a lens through which to enter critical debates on environment? Conversely, how might new thinking emerging from earth sciences and geo humanities reveal new insights into what it means to make a drawing be it conventional or expanded?

Particular areas of interest include, but are not limited to, the following questions:

- How might drawing help us position ourselves in relation to changing ecologies?
- What contemporary or historic strategies does drawing offer for bearing witness to environmental change?
- The Anthropocene reflects changes in global cultures. How can drawing alert us to such changes?
- What does thinking through the lens of deep time offer for understanding drawing and vice versa? Equally, what does this lens of time and change offer to our speculations of futures?
- How might drawing bring us closer to activity in the deep past or timescapes remote from our own lifetimes?
- What geopolitical questions does the concept of Anthropocene raise for ethical practices of drawing? Of how drawing is conducted, who draws, where and for whom?
- How might thinking through the concept of Anthropocene revitalize the traditional field of landscape drawing?

TRACEY

Journal

ISSN: 1742-3570

Drawing Anthropocene 2024

Volume 17
Issue 1

DRAWING ANTHROPOCENE EDITORIAL

Sarah Casey and Gerry Davies

Lancaster University, UK
sarah.casey@lancaster.ac.uk
g.davies@lancaster.ac.uk

Loughborough University

ojs.lboro.ac.uk/TRACEY

Drawing Anthropocene

This edition of TRACEY examines connections between drawing and the concept of Anthropocene.

The term Anthropocene, coined at the start of the new millennium by geochemist Paul Crutzen and freshwater researcher Eugene Stoermer, denotes a new period of geological time, reflecting the extent to which human activity is making its mark on geologic stratigraphy. Essentially, for geologists, the legacy of the Anthropocene will be the traces that our human existence will leave in the geologic record in times to come.

While there remains debate about the precise starting point of the Anthropocene (and it has yet to be formally acknowledged by the International Committee on Stratigraphy), the concept is now widespread and in common usage as a byword for human impact on the environment. As such, it has become an expansive and wide-ranging area, requiring the attention of many fields of study. As Nigel Clark and Bronislaw Szerszynski have noted, "in diagnosing human activities as a force of geological or planetary significance, natural scientists have stretched and expanded the conventional terrains of scientific research" as it enters into questions of human activity, traditionally the preserve of the humanities (Clark and Szerszynski, 2021, p 7). For example, issues of capitalism, race and colonial violence (Yussof, 2018).

So, while in geology, the term is applied with technical precision, for humanities and social sciences and arts it has a useful flexibility, used to bring together thinking about the ways in which traces of human presence impact upon the earth, including implications for cohabitants (Simonetti and Ingold, 2018, p 20). In doing so, it affords a new way of thinking, bringing together concerns about human interactions with other "planetary creatures" and entities (Spivak, 2003, p 73) and our relationships and responsibilities within these human-more-than-human dynamics.

The motivation for this special edition of TRACEY was twofold. Firstly, there has been an explosion of literature from many different fields accounting for developments in relation to Anthropocene thinking. It is high time to acknowledge and bring together a selection of the many rich and varied research applications of drawing encompassed under this term. Secondly, we have a sense that, at its core, drawing is intimately connected to the concept of Anthropocene. Put simply, reduced to is basics Anthropocene is about trace, of action and its imprint. We might say the same about drawing. To expand beyond this, we might even see Anthropocene as a collaborative durational drawing spanning the development and demise of human existence! Take for instance the carbon deposit known as the KT boundary from the Chicxulub asteroid impact, registered in geological stratigraphy as a layer of fine carbon deposit, the mark of an equally devastating event in time. Essentially, this is a line of carbon on a support, which, excepting the differences geographical and temporal scale, is perhaps not so different from the charcoal line you made in your first life drawing class?

Whether we regard this as drawing or not is less important than acknowledging that thinking of it as drawing, affords a certain way of thinking, opening the subject up to fresh critical examination through the methods and processes of artists. It is a useful provocation, one that prompts questions about how drawing might function in relation to climate crisis and what knowledge it might produce. For example, drawing may examine areas of contention: petrochemicals and carbon release, resource extraction, more than human agency, migrations, or post-human and planetary futures. As such, *Drawing Anthropocene* is a particularly timely addition to the growing body of drawing research that looks beyond the borders of drawing to other disciplines and issues in the world (Garner, 2008).

Too Big to See: questions of scale in Anthropogenic humanities

In The Great Derangement (2016) Amitav Ghosh calls our attention to cultural representations and political situations that deflect creative anthropogenic thinking. This includes both scientific solutions and speculative fictions, any of which might motivate climate action. He notes inaction in 'meta' politics but sees encouraging signs in the teaching of world religions, with Catholic, Buddhist, Hindu and Muslim leaders addressing issue of the Anthropocene. His hope is tempered, for, as he says of global political stasis, "even transnational groupings of transnational-states like the United Nations, seem unable to overcome it. This is partly due, of course, to questions of power and geopolitical rivalry" (Ghosh, 2016, p 160). Crucially for drawing, enfolded within this argument, is a case for creative arts as a tool for approaching future challenges.

Geopolitics, power and the Anthropocene all present difficulties of scale and representation. To address issues of visualization Mark Bould turns to Timothy Morton and the "hyperobject". He quotes and underscores Morton's problematization of scale in relation to epochal change when he says it is "so vast as to be almost impossible to hold in the mind" (Bould, 2021 p 14). Bould offers his own definition of the hyperobject "we can see rain, but not climate, a bank note but not the economy" (Bould p 14). In All Art is Ecological (2018) Morton uses the work of Olafur Eliasson to demonstrate how art, perhaps uniquely, can toggle between scales. In Ice Watch, Eliasson's 2015 installation of twelve great chunks of Greenlandic ice transported to Paris to melt in the sun, Morton demonstrates how the work engages with wildly differing climate scales and temporalities. Morton, points to the double meaning of "watch", as gaze and timepiece. He says, "part of the point of Ice Watch was an obvious visual gag: look, ice is melting and time is running out" (Morton, 2018 p 56). He goes on to unpack the work to bridge between global heating, precarity of Greenland ice sheets and human experience. Of the title he says, "But that was just the hook. What actually happened was much more interesting...and seriously stretched or went beyond prefabricated concepts...Watches are things that humans read. But they are also things that flies land on that lizards ignore, things that the sun glints off" (Morton, 2018, p 57). For Morton the language and experience of "gaze and watch" is an "encounter" and "dialogue". Not only an intimate touch between "human and blocks of ice" but also our species entanglement with our time of anthropogenic change.

This is visual Art's gift: the capacity to make the scalar shift between the macro and microcsosms we inhabit, from the vastness of deep time to the fleeting split second. Following from Morton, Ghost, Bould and other scholars, the articles in this volume all draw attention to what Rob Nixon calls the "slow violence" of Anthropocene (Nixon, 2011). Catastrophe is not, as George Perec frames it, sudden and abrupt (Perec 1999, 209). Not always vivid and newsworthy, or even visible. In *Drawing Anthropocene* the need to give attention recurs throughout. We see two types of anthropogenic alertness and representation. One position uses imaginative intra-action and seeks to 'join with' earthy elements and evolutionary processes. For example, to imaginatively experience carbon extraction as Rachel Bacon does, or to speculatively project us into post-human worlds as Charlotte Gould does. The other position takes drawing to be aligned with the data of materials and events. Examples are Serena Pollastri and her team teaching the next generation of designer climatologists to see and record local change or Virginia Mannering's analysis of the role of drawing in colonial expansion. While opposites, each approach relies on extreme attention. Attention to drawing's possibilities, and once a project is underway to exactness, rigor and, to use another Timothy Morton-ism, to be "ecologically explicit" with and through drawing.

Returning to Drawing

It has been argued that art history has been slow to establish its own ecological framework (Patrizio, 2019). As this framework becomes established, it feels imperative to look at drawing within this. Patrizio makes a convincing argument that while artists have for years engaged with issues of environment, developed activist practices, used drawing to think about the world, our theories of drawing remain relatively intact. It follows, that a changing world requires a changing framework and points of reference, or at least a critical examination of these in light of current dialogues of Anthropocene.

In arriving at final selection for *Drawing Anthropocene*, we were mindful of the need to avoid entrenching an "aesthetics of Anthropocene". Unsurprisingly many approaches to the subject of Anthropocene lean towards process, subordinating the authorial gesture of the artist to exploring shared agency with non-human forces. After all, drawing is an activity of tracing, layering, erasure, the drawn mark often belies the process of its making. It has been called a “trace fossil” (Halperin, 2015, p 22). Over the course of the twentieth century tenets of drawing - arguably the trace of an action made over a surface – have been tested, stretched and exploded as artists embraced performance, land art, soundscapes as forms of drawing. Drawing now has many identities, from lines in sand, footprints in the snow, or vapor trails in the sky (Dexter, 2005, p 6). As drawing researchers, we benefit from a rich resource of examples of artists ‘drawing’ by leaving trace on the earth – readers will be familiar with the work of Richard Long, Atsuo Tanaka, Robert Smithson, Ana Mendieta. Moreover, in contemporary debates about non-human agency, drawing may seem ahead of the curve – a longstanding history of artists engaged strategies to co-opt non-human agents into making, questioning the authorial gesture. Just as Long lets the qualities of the mud form his drawing, Tanaka’s identifies the drawn/erased action of the sea. This trajectory initiated in the twentieth century finds continued applications in contemporary drawing. For example, in Tim Knowles’s drawings determined by the action of tree branches, Peter Matthews’ by the movement of the ocean, Ilana Halperin’s collaboration with mineral agents. Lucia Cunningham’s article approaches this tradition head on, using her camera to documents instances of non-human drawing and traces in the land. Casey converts drawing into a device, measuring the intensity of the sun's heat in precarious glaciated landscapes. These practices remind us that matter acts as recording devices (Eyal & Wiseman, 2021, p 50). Drawing offers a means of investigation, a means to highlight these agential forces through interpretation and sense making. What matters here is not the capacity for drawing to be co-produced with non-human agents, but that in recognizing this potential, we are alerted to new realities and responsibilities.

As editors, knowing the expansion of drawing, and the long history of artists collaborating with agents of wind, weather etc., we were not surprised to see the submissions leaning towards process-based drawing. We were, however, surprised by the lack of figurative and narrative work. Given the prominence of storytelling as a mode used in the humanities, were surprised not to see this in drawing. We recognize that this is not due to a lack of projects – for example, as we see in the work of Susan Turcot, or Kulrada Phenchaoren. As with any open call, the responses act like a temperature gauge, revealing not simply what is hot or trending, but what do researchers in drawing feel is important and worth researching, and by what means, or if you like, by which drawing language. So, this in itself has been a useful exercise – highlighting an area for future research and development.

The approaches represented in the articles in this special edition are conspicuously varied. As editors, we took a decision to afford a generosity to different approaches, some conventionally academic, rigorously underpinned, others more personal and speculative. Each, in their own way, highlights a relationship

between drawing and Anthropocene. In some cases, this is direct, for instance in Pollastri's use of drawing to engage students with markers of climate change, or Samantha Lynch's speculative future spaces. In others the connection is more mediated, such as Gunn's use of process-led drawing reminiscent of Sol Le Witt's wall drawings reapplied as a means of focusing our attention, or in the authors words "attentional modalities". This approach encompasses a sense of excavating drawing's past to recover methods and processes that can be repurposed and redeployed, shifting from a studio-centric modernist endgame to an entry point to reflect on environmental change.

This sense of conceptual excavation characterizes Rachel Bacon's approach, who explores dialogue between drawing and mineral extraction. In doing so, an argument is made for "drawing as a counterweight to economic imperatives" (Bacon, this volume). This advocacy for drawing as positive force for change recurs in many of the papers. There are suggestions that drawing offers a more responsible, caring approach to our more-than-human cohabitants of the earth. Building on the work of Donna Haraway, Lucia Cunningham's exploration of more-than-human agency, foregrounds themes of care, kinship. Here, sharing agency is couched in positive terms, offering a challenge to the anthro in Anthropocene, and drawing as an antidote to human power. A similar ethos informs Charlotte Gould's "Chuthlucene Hekateris" which takes a more radical application of Donna Haraway's thinking on kinship and collaboration to envisage a speculative future of human-non-human hybrids (Haraway, 2016). Speculative futures also characterize Samantha Lynch's "Enfolding the Garden". The article presents experimental architectural drawing practices as a means to negotiate environments that we might need to learn to live in as climate effects cascade.

While these examples speculate on futures, Virginia Mannering's art historical article highlights drawing's role in the colonization of present-day Australia, revealing drawings' engagement with ideas of Anthropocene didn't begin in the twentieth century. "Drawing is Complicit" presents a compelling demonstration of how drawing was used as a tool of colonial expansion, the exploitation of land and peoples. This argument serves to remind us that drawing is not inherently good. It is a check and balance to us as researchers, reminding us of our responsibility to examine our assumptions and practices and the hegemonic legacies that underpin them. Her argument foregrounds what Nigel Clark and Kathryn Yussoff term "Geosocial formations". These are encounters that "require us to acknowledge that human history and politics can no longer be considered as an epilogue, divorced from the vast history of the earth that precedes them. Knowledge of deep time depends on sociality which in turn grows alongside ecological forces" (Simonetti, 2019, p 49).

This geosocial entanglement is made vivid in the context of glacial archeology, the focus of Sarah Casey's article. Casey demonstrates how drawing's facility for negotiating polarities of absence and presence offers a language to articulate the challenges of valuable human heritage emerging at the cost of lost ice. Moving from theoretical speculation, to practical application, her wax drawings of archaeology exposed to the sun's heat, suggest possibilities for how drawing might be deployed as a device in climate measurement.

Yet perhaps the most practical approach of all is that of Serena Pollastri, Liz Edwards, Joseph Bourne and Suzana Ilic in their case study highlighting the educational potential of drawing to engage teenagers in observing changes in their environment. Their approach could be seen as unfashionable– it pushes less at theories of drawing and it doesn't seek to challenge, extend or invent established theories of drawing. While this situates it as an outlier among the other contributions to *Drawing Anthropocene*,

instead it seeks to put theories into practice to generate real world examples that test how hypotheses stand up, providing valuable evidence for the application of drawing as a tool to combat climate challenges. While other authors highlight the importance of care, here we are presented with drawing as a means of empowerment for young people to equip them to better contribute to decision making about the future.

Finally, and with a last observation, we acknowledge the limits of our reach as editors of Drawing Anthropocene, that is, in the main the articles focus on the symptoms rather than the causes. Returning to earlier discussions of scale, it remains a challenge to the drawing community to formulate drawing practices which can analyze and depict the globalized extraction of Gazprom, Shell, Rio Tinto, etc., and the geopolitics of carbon emissions. Drawing Anthropocene does not adequately represent the voices of those most affected by these activities, cannot claim to be comprehensive survey. What follows is less a definitive last word, more a tentative opening of a door, an exploratory foray into the places that drawing might explore.

References

Bould, M. (2021).The Anthropocene Unconscious: Climate Catastrophe Culture, London: Verso Books.

Clark, N. and Szerszynski, B. (2021). Planetary Social Thought : The Anthropocene Challenge to the Social Sciences, Cambridge: Polity Press.

Dexter, E. (2005) Vitamin D: New Perspectives in Drawing, London: Phaidon

Fuller, M. & Wiseman, E. (2021). Investigative Aesthetics, Conflicts and Commons in the Politics of Truth, London and New York, Verso Books.

Garner, S. (2008). Introduction. Writing on Drawing: Essays on Drawing Practice and Research, Bristol: Intellect Books.

Ghosh, (2016). The Great Derangement: Climate Change and the Unthinkable, Chicago & London: University of Chicago Press.

Halperin, I. (2015). “Between Formation”, in Sawdon, P. and Marshall, R. (eds.) Drawing Ambiguity: Besides the Lines of Contemporary Art, London and New York : IB Taurus.

Haraway, D. (2016). Staying with the Trouble, Durham & London: Duke University Press.

Morton, T. (2018) Thinking Ecologically, London: Pelican.

Nixon, R. (2011). Slow violence and the environmentalism of the poor, Cambridge Mass: Harvard University Press.

Patrizio, A. (2019). The Ecological Eye: Assembling an Ecocritical Art History, Manchester: Manchester University Press.

Perec, G. (1999). Species of Space and Other Pieces ed. John Sturrock, London: Penguin.

Simonetti, C (2019). “The Petrified Anthropocene”, in Theory, Culture & Society, 36 (7–8) pp 45–66

Simonetti, C and Ingold, T. (2018) Ice and Concrete: Solid Fluids of Environmental Change, in Journal of Contemporary Archaeology 5.1 pp 19–31.

Spivak, G. C. (2003). Death of a Discipline, New York, Columbia University Press.

Yusoff, K. (2018). A Billion Black Anthropocenes or None, Minneapolis: University of Minnesota Press.

TRACEY

Journal

ISSN: 1742-3570

Drawing Anthropocene 2024

Volume 17
Issue 1

WHAT'S THE MATTER? AN EXPLORATION OF THE SHARED SPACE BETWEEN DRAWING AND MINING

Rachel Bacon

Royal Academy of Art (KABK), NL
r.bacon@kabk.nl

In this paper I consider the idea of an expanded drawing practice, in which marks made on paper and marks made through excavation in a landscape may both be considered forms of drawing. Site-visits to open-pit mining areas act as research locations for exploring a vocabulary of mark-making that links the drawings made in the studio with the marks made in the landscape through excavation. These excavation sites are locations where vastly different time frames are conflated: ancient geological time, the speeding up of economic time and the deceleration allowed by artistic time; and finally the panic time associated with an age of ecological crisis. The temporal dissonance of these sites may lead to a sense of landscape instability, a characteristic of this current era in which, according to Timothy Morton, a human-centered viewpoint is being disrupted due to the effects of climate change. In my drawing practice, I am attempting to envision mark-making no longer as an individual mark made on a surface, (a dominant mark acting on an "empty" landscape) but rather as a form of ecological co-creation, in which both surface and mark are completely interdependent, and in which a conscious deceleration may act as a counterweight to accelerated economic imperatives.

Introduction

In my drawing practice, I am interested in exploring alternative ways of viewing landscape in an attempt to offer alternative models for how to perceive and interact with our surroundings in a way that speaks to the complexity and speed of current ecological transformations. My original research centered on open-pit lignite mines in Western Germany, and began as a series of site visits to observe and collect material. These observations of the marks made in the damaged landscape then influenced the marks made in my drawings on crumpled paper. Subsequently I was invited in 2020 to participate in a project on landscape in Russia, and turned my attention to open-pit diamond mines in Siberia. This trip was not able to take place; however, much of the preliminary research remains valid as a methodology for working with sites of excavation and drawing practice, and I will describe those ideas here as well. In this paper I will attempt to connect these visits with my drawing practice, exploring some of the possible implications for how it might be possible to re-frame images of landscape in an era of ecological disruption in which humans and non-human spaces are becoming ever more interwoven.

Drawing and Mining

As an artist, I already have an intensely intimate connection with my (non-human) drawing material, graphite. In making drawings, I cover the paper with marks, and often end up being covered with material myself. The graphite is slippery and gets into the pores of my skin and deep into the grooves and ridges of my fingerprints. The fine dust produced from the constant mark-making is absorbed into my system through my breathing. In the studio I taste the metallic tang of graphite on my tongue, and feel my throat start to swell up after a few minutes of drawing. Through making marks, I am slowly turning into my material, my body merging with my surroundings.

My interest in mining sites can be traced to this intensive use of the material graphite. The use of such a raw material for me suggested a connection to the extraction industry as a whole. This is what compelled me to search for a way to engage with this aspect of the materials I use, through visits to mining areas where the detrimental effects of open-pit mining are so immediately visible. It was not necessarily important to me to visit the literal site of my material. Rather, I was drawn in by the phenomenon of open-pit mining as a form of extractive drawing, and the strong connection between extraction and the climate crisis. Extraction, of all kinds of different raw materials but specifically of fossil fuels, is thoroughly implicated in the current state of potentially devastating climate warming, according to the IPCC (International Panel on Climate Change). While mining graphite or diamonds is not directly linked to carbon emissions in the way that burning fossil fuels is (except for the emissions produced as a result of extraction and logistical processes), coal certainly is. As I visited various sites, among them the open-pit lignite mines in Western Germany, it started to become clear to me that not only is there a comparison that can be made between some mining methods and my own drawing, but that the underground seams of ore may also be considered as drawings in their own right — huge, ancient, dark gestural marks, invisible until laid bare through excavation.

FIGURE 1: DRAWING PROCESS IN STUDIO, ARTIST'S HAND, GRAPHITE ON PAPER, 2021

I am visually fascinated by these damaged landscapes of extraction, in spite of the depredation they represent. They are impressive sites – often so large they resemble not something man-made, but a feature of a natural landscape like a valley or river bed. That is, until you look down and notice the tiny figures or trucks working at the bottom of the mine, and it becomes clear the sites are the result of human intervention. I have mixed feelings about these places. Awe at their size and grandeur; respect for the engineering ability and determination of the people who operate the mine (though wishing these abilities were put to different kinds of uses); and distress at the havoc they wreak on the landscape and the violent economic growth principles they represent.

FIGURE 2. TAGEBAU HAMBACH, LIGNITE MINE, ELSDORF, GERMANY, 2020

Site Visits: Drawing Vocabulary

In 2019, I began to explore the lignites mine near Elsdorf, Germany, where one of Europe's largest open-pit mines is located. It produces brown coal incinerated to generate energy for nearby German and Dutch electricity networks. Excavation sites, especially visible at open-pit mines, are massive mark-making enterprises. The diggers and machines used for excavation are drawing, in a negative manner, as they scrape into the earth. Looking into the pit, an immense black strip is revealed, appearing at the bottom of what looks to be an inverted ziggurat. This swath of brown coal, or lignite, stretches out horizontally throughout the region. At the mining site it comes closest to the surface, even so, it is 300 meters below sea level. It is easy to imagine the coal, which is between 40 - 60 million years old, lying like a vast sheet pressed in between layers of sand and silt, a black page stretching out beneath the surface. However, this layer has been laid bare, and is being removed as the excavators follow the ancient line of coal and in so doing create a negative drawing, leaving behind the space where the coal used to be.

FIGURE 3. TAGEBAU INDEN, LIGNITE MINE, ALTDORF, GERMANY, 2020

The drawing vocabulary that emerges from this expanded drawing site is a meeting of abstraction and concrete matter. Shapes are derived from industrial machinery and infrastructure and the organic qualities of materials and the earth. There are long flat plains formed by vertical cuts, that end in a rutted cliff face; the edge of the pit where the earth has been cut away, ridged with lines of erosion; and shaggy rows of soon to be demolished woodlands at the pit's edge. Barriers set up by protesters are made from branches of the same trees. In the lumpy, sandy mass of material can be found the long straight lines of railways slicing through the landscape, that assist in removing the coal. Forms in the drawings may form visible references to industrial machinery, (grids, lines, blocks) and their traces left on the earth (scars, folds, crumples and tracks). Some forms at the mine arise as a result of erosion and weathering processes: wrinkles, creases, cracks and furrows. Other shapes belong to the landscape at large: pits, holes, terraces, dugouts, pools, humps and ridges. The marks made in the landscape vary from very precise to rough and gestural; with faster, jagged, teeth-like marks that reference the rapid pace of economic efficiency alternating with the delicate fissures of drying and eroded earth.

In the drawing *The Other Orebody*, the drawing is formed from a series of rectangles, leaving space in between sections to form a grid. The grid is evident in all mining activities, both as a way of dividing up the surface of the land into parcels, and as cross-sectional mapping for excavation. This is in contrast to the creases and wrinkles in the paper caused by repeated crumpling, that start to resemble the eroded and fissured earth, as well as the dark seam of coal itself.

FIGURE 4: RACHEL BACON, THE OTHER OREBODY, 2019, GRAPHITE ON PAPER ON FOIL, 503 X 191 CM, PHOTO BRIAN MAC DOMHNAILL

Parallel Methodologies

In the drawings made as a result of these expeditions I explore some shared methodologies between drawing and mining. Both start from a so-called “pristine” landscape — in the case of the drawing the blank sheet of paper, in mining a natural landscape. The next step is a process of mapping, in which a grid is employed as a way of measuring and dividing space. In mining it would entail surveying and dividing the area to be mined. In my drawings, the grids may arise as a function of the rectangular shape of the sheet of paper, whose outlines often become clearer as the drawings progress. After the areas are mapped, excavation follows. If it is possible to envision the excavation as a form of drawing, conversely, it might be said that drawing is in turn a form of excavation. In my work, the dark shapes often gradually emerge as forms that resemble seams, around which graphite is carefully and meticulously laid. A reversal takes place during the drawing process in which the seam is created by the replacement of material, not its removal.

FIGURE 5. RACHEL BACON, ADRIFT, 2022, GRAPHITE ON PAPER ON FOIL, DETAIL

The slow and meticulous marks made on the crumpled paper are for me a way of expressing care. By repeated mark-making, almost a kind of polishing, the graphite in the drawing becomes very shiny and starts to resemble something akin to a precious metal. Empty paper and drawn areas alternate to form what look like seams, comparable to a vein of coal or ore, with the undrawn part of the paper left open as a space of potential. The emphasis here is on the “blank” surface, which is in fact never blank but full of wrinkles, creases and textures, alive with imaginative possibilities and associations.

Another aspect of making these drawings has to do with the ambiguous nature of their state. First developed as small sketches and material studies, they exist in multiple dimensions. Both sculptural and graphic, folded and rolled, standing and slumping, they may be seen from above or in cross section. The drawings describe a space in-between, suggestive of an experience of uncertainty and contradiction, allowing the exploration of multiple perspectives. This in-between state is for me the beginning of an artistic speculation on new forms of hybridity, possible mergers and co-habitation between different points of view, and states of unbalance and precariousness. They are an invitation to the viewer to become less comfortable in their own skin, and more attuned to an experience of being destabilized.

FIGURE 6. RACHEL BACON, DISYNCLINATION, 2022, GRAPHITE ON PAPER ON FOIL, 200 X 180 CM

It often takes many months to produce one of these images, an amount of time disproportionally large in comparison with the relentlessly efficient economic time of the mining enterprise. I mainly draw on crumpled paper. Crumpled paper would normally be considered a mistake and thrown away. In mining, the discarded earth is called “overburden”, an unwanted leftover. In the drawing, nothing is discarded, instead I embrace what is damaged and reveal mistakes through mark-making. In the same way, aging skin with its wrinkles, fissures and furrows might be something considered unappealing or unwanted, yet when closely examined the lines and patterns may take on a magnificent complexity speaking of time and experience, etched in material. The crumpled paper and graphite marks of the drawing gradually start to resemble both worn skin patterns and the lands’ erosion, inviting a possible association between body and earth. Although a drawing can hardly match the experience of a real mine, my intention is to set in motion an identification with the crumpled paper as skin, and the earth as body. This sense of ourselves as being just one object among many is key to a true ecological awareness; there is no “away” only an enmeshment of things, and this awareness may start with an encounter and identification with the vulnerability and limits of our own materiality.

FIGURE 7: DRAWING PROCESS IN STUDIO, USING A 9 MM MECHANICAL PENCIL, 2022

Ecological Mark-Making

In discussing the parallel between drawing and mining methodologies, I described the approach to landscape and to the sheet of paper, as that of a “pristine” site, an untouched surface. However, no landscape on earth can really be said to be uninhabited (if not by people then by fauna and flora). And the surface of paper, instead of being a blank sheet that is acted upon by the artist making a mark, is itself not neutral. As I draw into and around the crumples in the paper, the surface participates in creating the drawing, in which surface and marks become interdependent. Artist and writer Marina Kassianidou, in her discussion of the work of three artists, Dorothea Rockburne, Louise Hopkins and Lai Chi-Sheng, evokes the artists' crumple, fold and drawing works in which:

> *"...the distinction between marks and surface falters as the two coincide. In all three cases the paper is not approached as something blank to be filled or covered but rather as something to observe, respond and relate to. Moreover, the paper is not treated as an autonomous clean space in which the artists can create their own world. Rather, the paper is the world, and the artists' task is to focus on that reality and work with it..." (Kassianidou, 2021, p. 247)*

In these artists' works, the surface and the mark become intertwined, enmeshed and interdependent, neither mark nor surface is privileged over the other. In my drawing, there is a more clearly delineated form, in that I allow the graphite to describe forms that often follow a pattern resembling a coal seam or veined connective tissue. However, on closer inspection, it becomes clear that the marks are built up out of countless smaller shapes that originate from the crumpled form of the paper, so that the image is utterly dependent on the surface of the paper for its own appearance.

Kassianidou argues that meaning arises not only through the significance of the mark made on the paper, but because of their inextricability. This is a very different approach to mark making than one in which the mark maker (the artist, the excavator) attempts to dominate that which is being marked (the paper, the landscape). Instead, marks are laid down in response to what is already there. The work in this case becomes a collaboration or co-creation between figure and ground, mark-maker and mark-receiver. It implies a form of shared agency, a realization and manifestation of the interconnectedness of artist and surface, excavator and landscape, human and non-human; in short, an ecological form of drawing, where surface and mark are interdependent. An ecological form of drawing is one in which the utter interrelatedness of mark and surface is visualized, and in which, in Kassianidou's suggestive words, " ...drawing is approached as a space of potentiality, a space through which relationships between mark and surface, and between self and other, can be negotiated and re-negotiated anew." (Kassianidou, 2021, p. 251).

Siberia

Open-pit mining sites often reveal the consequences of an approach to landscape in which an attitude of co-creation is missing, and where a form of dominance over the "empty" landscape prevails. These sites are shaped by economic imperatives, with the intention to extract ore and materials as efficiently and as quickly as possible. Choices made about how to exploit the site must take into account its natural features. But while the excavators cannot help but react to the surroundings in numerous ways, the destruction that follows can in no sense be said to be a co-creation. Rather it is an action that results in absence, a form of anti-landscape. Examining these sites it becomes clear that the landscape is in fact missing — huge swaths of earth have been displaced or burnt (in the case of the coal). To visit these sites is to witness loss and to absorb some of the complexities and entanglements involved in one of the most violent and often awe-inspiring forms of human impact on landscape possible.

With this in mind, in 2020 I took part in a multidisciplinary research project called *What Do Landscapes Say?* on landscape narratives in Russia. As part of my research for the project, I began investigating the open-pit diamond mines in Siberia. My main drawing material, graphite, is pure carbon and has the same chemical substance as diamond. Graphite and diamond are allotropes of carbon, meaning that though they have different physical forms, they share an identical chemical composition. The idea of something

as sought after as diamonds being chemically identical to the humble pencil has long fascinated me, as a way of re-evaluating what might ordinarily be thought of as relatively worthless.

The trip to visit the diamond mine in Siberia, postponed multiple times, eventually had to be cancelled. However, even without the physical experience of the site visit, much of the preliminary research remains relevant for future site visits as a way of describing some of the temporal complexities that such sites lay bare. The high northern landscape is notable for its combination of industry, wilderness, geology and the spiraling effects of climate warming that cause the tundra to burn, permafrost to melt, and the gigantic open pit mines to keep expanding. In the past few years, temperatures have been dramatically increasing and the permafrost is starting to melt. The oldest mine in the region, the Mir pit, one of the largest man-made holes in the world, is expanding, quite close to the city of Mirny. If the warming continues, which it is predicted to do, the mine may even start to swallow up the city. At this site, temporal and spatial scales collide: the ancient geology of diamond formation; the economic imperative to keep expanding; the artistic attempt to slow down and observe, and the panic time of an unfolding, escalating climate crisis.

FIGURE 8: MIRNY, SIBERIA, MIR DIAMOND MINE, 2017, PHOTO ILYA VARLAMOV, LICENSED THROUGH CREATIVE COMMONS

Temporal Dissonance

"We must run as fast as we can, just to stay in place. And if you wish to go anywhere you must run twice as fast as that." This quote from *Alice in Wonderland* is (perhaps disturbingly) a cornerstone of the revamped diamond-mining philosophy of Alrosa, the state-owned Russian diamond mining concern, according to the director Sergey Ivanov, in an interview in the Alrosa Magazine of September 2018. This

slightly fantastical vision on economic growth is the exact opposite of a sustainable practice. This is part of what motivates me in my drawing work to slow things down, as an alternative to the acceleration of economic time. It sometimes takes months and months to produce one of these images, an amount of time disproportionally large in comparison with the relentlessly efficient economic time of the mining enterprise (or of the art world imperative to continue to produce something “new”).

The geological time of diamonds is itself extremely lengthly. They are formed deep within the earth, and can be billions of years old. Crystallized in the intense heat and pressure in the magma of the earth's upper mantle, they can only remain stable at very high pressures and temperatures, and were brought to the earth's surface in ancient volcanic eruptions. It isn't the case that diamonds form from solid graphite moving through ever-hardening stages and crystallization to become one of the hardest naturally occurring materials on earth. Rather they apparently formed from liquids, possibly from intrusions of fluid from the ocean floor into the mantle. However, when rising to the surface in the molten kimberlite, diamonds may revert to graphite when the rising magma is slowed down or diverted. This demarcation line is called the graphite-diamond boundary. The image of a diamond reverting to graphite due to deceleration is suggestive of a kind of reverse alchemy, in which the valuable element again becomes a base material. And might this diversion and slowing down offer a way to understand how to possibly attend to the climate crisis we are in the midst of perpetuating?

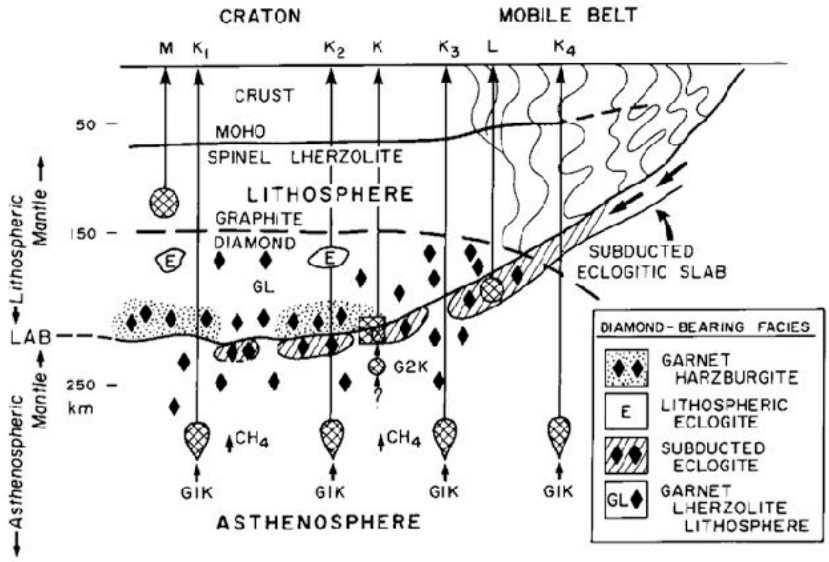


Figure 1 *Hypothetical cross-section of an Archean crator and adjacent cratonized mobile belt, showing the location of the lithosphere-asthenosphere boundary (LAB) relative to the stability fields of diamond and graphite. The diagram illustrates why different group 1 kimberlites (G1K) differ with respect to sources of xenocrystal diamond. K_1 may contain lithospheric and asthenospheric garnet lherzolite diamonds together with garnet herzburgite-derived diamonds. K_2 contains diamonds from the aforementioned sources plus diamonds derived from lithospheric eclogites and subducted eclogites, i.e., five distinct sources. K_3 contains only lithospheric and asthenospheric garnet lherzolite diamonds. K_4 does not pass through any diamond-bearing regions and is barren of diamonds. Group 2 kimberlites (G2K) are shown originating at the LAB and contain diamonds derived from garnet harzburgites and subducted eclogitic sources. An asthenospheric component may be involved in their genesis. Lamproite (L) contains diamonds derived from subducted eclogite and lithospheric garnet lherzolite sources. Melilititic (M) magmas are shown to be derived from depths within the graphite stability field and hence they are barren of diamond.*

FIGURE 9: GRAPHITE — DIAMOND BOUNDARY, 1991, FROM R.H. MITCHELL, KIMBERLITES AND LAMPROITES: PRIMARY SOURCES OF DIAMOND

What might it mean artistically to embrace the slowness and diversion of graphite as opposed to the speed of diamond excavation? From the time spent researching diamond mines a series of drawings arose titled *Rough Cuts*. These large scale works are all loosely hexagonal, based on the molecular structure of carbon molecules. In these works, it can be clearly seen that they have taken an immense amount of time to make. Though this artistic deceleration still pales in comparison with the immense scale of geologic time, it may act as a juxtaposition to the ever-faster and more damaging feedback loops of rising temperatures and speeding up of economic time in relation to the ancient materials extracted. My hope is that the viewer may take the time to slowly experience material in a way that invites an identification between our bodies and the earth, to possibly start to conceive of another way to understand ourselves in relation to the material that makes up the stuff of landscape. That through a felt understanding of our own vulnerability, we may be able to conceive of a decelerated and less damaging relationship with our surroundings.

FIGURE 10: RACHEL BACON, ROUGH CUT NO. 2, 2021, GRAPHITE ON PAPER ON FOIL, 140 X 220 CM

Hyperobjects

In researching and considering the role art may play in facing some aspects of the ecological problems at hand, I've been continually inspired by the writing of Timothy Morton, especially his book *Hyperobjects*. A hyperobject is something such as global warming, pollution or radiation, that is so vast in temporal and spatial scale it is impossible to comprehend or plan for. Distant and impossible to grasp, the hyperobject also infiltrates our daily lives and sticks to us, for example in the form of plastic bottles or sunburn. For Morton, the ecological crisis is an ontological one, a "quake in being," (Morton, 2016, p. 19) because it disrupts our human-centered viewpoint, a viewpoint that has led to unparalleled destruction of natural environments. (It has to be made very clear this "human" centeredness does not apply to all humans, as there are people living in a much more equable relationship with their environments).

The hyperobject has the effect of destroying our (Western) conceptions of World and Nature as a container for human lives. When Nature is no longer there as a backdrop, we become disoriented, as the foreground, background and horizon also vanish. It entails a traumatic loss of coordinates. This condition will require an emotional response, as we can't think our way out of this. It's a time of catastrophic loss, not just literal loss as habitats and species disappear, but also in terms of having to relinquish old ideas of how we are in the world. For Morton, art in these conditions is grief-work. My drawings are made on black paper, referencing not only the earth and coal seams, but the mourning and sorrow that accompanies this age we are living through and that is often associated with this somber color. According to Morton, art can guide us through this grieving process, walking us through a space that is difficult to traverse. Morton's thinking also has profound implications for how landscape is visualized, as it may point towards a non-anthropocentric perspective that is much more unstable, multifocal, and difficult to grasp rationally, requiring an emotional response.

The disruption of the human-centered viewpoint is a disturbing proposition, but one that humans (mainly those in hitherto relatively insulated consumer societies) will ultimately have to get used to. The effect of the ecological/ontological crisis is an upending of the hierarchies between humans and non-humans. Certain human beings will need to give up the illusion of being in control in an era of rapid climate change. While extremely disorienting, this awareness of our condition may lead to a state of intense intimacy with our surroundings, as we become aware of being very close with other non-human entities. This is something that as an artist I strongly identify with, as for me materials are always the starting point for works and are something that while working I observe and follow according to their specific qualities. And perhaps for the audience, the encounter with an artwork may also act as an experience of something other, and as such may allow an experience of another way of viewing the earth that is destabilizing, opening the way to an experience of the fragility and vulnerability of material, towards an identification with our own bodies.

Conclusion

Drawing on damaged paper, following the crumples, may stand as a model for mark-making as a form of co-creation, a collaboration between figure and ground, mark and surface, excavator and landscape. This may point the way towards an approach to landscape in which humans no longer dominate, but become sensitized to the otherness of their surroundings. I am aware of the important questions arising regarding representation, and whether in taking images and materials and reusing them, I am perhaps also engaged in or replicating a form of artistic exploitation or misrepresentation, extracting imagery and

material for my own use. There is always the question of the rectitude of speaking for an entity without a voice, in this case a natural landscape. Astrida Neimanis calls this the dilemma of “Can't but Must,” (Neimanis, 2015, p.144) the quandary of a perceived need to address an issue, simultaneous with the realization of the impossibility of representing another's viewpoint. With this in mind, let us return to drawing. My drawings take ages to make; slowing down time, the humble implement puts value into caring and spending time with something damaged. The humble graphite mark may become precious, and echoes of the damaged landscapes underlying the extraction of costly coal and diamonds reach out to touch us across a vast distance. Let us discover our own graphite-diamond boundaries as a consumer society, and revert from one based on constant acceleration to another in which the creative endeavor and a much slower pace of production and consumption draws a different kind of future. This is not about making “environmental art.” It is about not looking away, and how drawing might be a tool for exploring modes of deceleration and co-creation. In a crisis, slow down.

References

Achuta Rao, K.M., Barimalala, R., Barreiro Parrillo, M., Bellouin, N., Cassou, C., Durack, P.J., Eyring, V., Gillett, N.P., Kosaka, Y., McGregor, S., Min, S., Morgenstern, O., and Sun, Y. (2021) 'Human Influence on the Climate System. In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change', Connors, S.L., Péan, C., Berger, S., Caud, N., Chen, Y., Goldfarb, L., Gomis, M.I., Huang, M., Leitzell, K., Lonnoy, E., Masson-Delmotte, V., Matthews, J.B.R., Maycock, T.K., Pirani, A., Waterfield, T., Yelekçi, O., Yu, R., Zhai, P. and Zhou B. (eds.). Cambridge: Cambridge University Press, pp. 423–552.

Alrosa In-House Publication, (2018) 'Interview Sergey Ivanov: We Change in Response to New Challenges', p. 30. Available at: http://www.alrosa.ru/wp-content/uploads/2018/12/Alrosa_01_2018_eng.pdf

Bourriaud, N. (2022) Planet B: Climate Change and the New Sublime. Paris: Radicants.

Kassianidou, M. (2021) 'Works on/and/with Paper: Approaching Drawing as Responsive Marking', in Chorpening, K., and Fortnum, R. (eds) A Companion to Contemporary Drawing. Hoboken: Wiley – Blackwell, pp. 238-254.

Mitchell, R. H. (1991) 'Kimberlites and Lamproites: Primary Sources of Diamond', *Geoscience Canada*, 18(1), pp. 1-16. Available at: https://journals.lib.unb.ca/index.php/GC/article/view/3712 [Accessed 28 May 2021].

Morton, T. (2016) Hyperobjects: Philosophy and Ecology after the End of the World. Minneapolis:University of Minnesota Press.

Neimanis, A. (2015) 'No Representation without Colonisation? (Or, Nature Represents Itself)', Somatechnics, 5(2), pp. 135-153.

TRACEY

Journal

ISSN: 1742-3570

Drawing Anthropocene 2024

Volume 17
Issue 1

THE ARTFULNESS OF MORE-THAN-HUMAN TRACE

Lucia Isolda Cunningham

Loughborough University
l.cunningham@lboro.ac.uk

This article grows out of a wider research project that investigates the artfulness of traces made by more-than-human life through the lens of ecologically inspired contemporary drawing practice. In this sense, drawing is a way of paying attention to the artfulness of an action, experience or state that leaves a trace: a mark or sign, track or trail left by the movement of life. This research concerns Indexical Drawing, a practice that makes direct contact with the world through mark-making, shifting the focus of drawing beyond the human. In this article, more-than-human traces are documented by photography resulting from a thrown-togetherness of lives through a practice of walking, paying attention and sympathy, forming new kinds of relationships with life such as gastropods, arachnids, insects and vegetation. Walking-in-place develops an investigative space for more-than-human objects to reveal their own aesthetic yield from the properties and physicalities they possess. This article challenges the anthropocentrism of the Anthropocene and aims to contribute to a rethinking and reimagining of ecological processes through a way of drawing, proposing and perceiving artfulness in the more-than-human.

Introduction

This article draws on the findings of a larger project that investigates the *artfulness* of traces made by more-than-human life through the lens of ecologically inspired contemporary drawing practice. In this sense, drawing is *a way* of paying attention to the *artfulness* of an action, experience or state that leaves a trace: a mark or sign, track or trail left by the movement of life. This research links to *Indexical Drawing*, a practice that makes direct contact with the world through mark-making, shifting the focus of drawing beyond the human. In this article, more-than-human traces are documented by photography resulting from a *thrown-togetherness* of lives through a practice of walking, paying attention and sympathy, forming new kinds of relationships with life such as gastropods, arachnids, insects and vegetation. Walking-in-place develops an investigative space for more-than-human objects to reveal their own *aesthetic yield* from the properties and physicalities they possess. This challenges the anthropocentrism of the Anthropocene and aims to contribute to a rethinking and reimagining of ecological processes through *a way* of drawing, proposing and perceiving *artfulness* in the more-than-human.

The research has adopted David Abram's term, *more-than-human* (1996), because it helps to think past the centrality of the human subject challenging anthropocentrism. Although the Anthropocene has become part of the lingua franca of the environmental movement and has gained significant cultural and academic importance the term is problematic because it continues to centre the human. Abram says that it is not our mind or our abstract intellect that connects us deeply to other species but our bodies, our animality (Abram, 2011). He suggests that if we celebrate our own materiality; it can open relationships and kinship with other bodies and fleshly presences, giving us the ability to empathise with more-than-human shapes, sentience or way of life (Abram, 2021). Through art practice, I explore this embodied experience by forming new kinds of relationships among different living objects through the expanded field of drawing, fascinated by the traces made by the more-than-human and intuitively recognising them as artful. In exploring what artful means, and how to apply it to drawing, I borrow Erin Manning's definition of *artfulness*,

> *'Artfulness does not belong to the artist; it is the aesthetic yield that opens experience to the participatory quality of the more-than' (Manning, 2016 p 59).*

A*rtfulness* is explored in the *aesthetic yield* of more-than-human trace that is intuitively experienced as drawing beyond human agency. My role is participatory and not the centre of the work. As I walk in the Shropshire landscape the physical traces left by the more-than-human passage into being are found and encountered through curiosity, sympathy and care. These encounters tap into my intuition through a nascent understanding of ecological entanglements and the expanded field of drawing. I am co-productive and co-dependant on the more-than-human through our entangled agencies with one another. A drawing practice that is attempting to include the *artfulness* of more-than-human trace is 'indexical drawing' originating from Charles Sanders Pierce index theory (1860s). The index is interpreted as a mark or trace of some past contact, for Pierce what chiefly characterises the index is the way it forces our attention (Iversen, 2018). In the recent writings of Mary Ann Doane, the index becomes a type of sign caught up in contingency, chance, and accident. These signs are affected by the objects that create them and are non-mimetic (Iversen, 2017). Using this notion to understand more-than-human trace in contemporary art means to 'displace image-making as representation and considering it a form of contact and as an inclusive, anti-ableist inter-relationship with the viewer' (Neves, 2021). My drawing

does not try to control or take anything from the more-than-human; life is free to be itself and leave its own mark without having to represent anything other than itself. This article examines the *artfulness* of life through field observations and photographs of gastropods, arachnids, insects and vegetation largely because they are familiar traces left in the landscape.

Walking as a mode of creative hunter gathering

I walk daily in the Shropshire countryside, UK, describing myself as a creative hunter gatherer, seeking out more-than-human trace and documenting them. Deanna Petherbridge says,

> *'The notion of erratic resurgences of visual fragments in the relatively spontaneous and unfettered sketches of artists – unlike the shards of past traditions that are structurally embedded in academic or mediated drawing systems – co-exist with the hunter and gatherer instincts of visual artists and designers' (Petherbridge, 2010 p 13).*

Walking provides an opportunity to engage with my hunter gatherer instincts to observe the world around me as it continually unfolds, transforms, renews and decays with an openness to discovery. The paths made when walking are not the focus of the work. Instead, I track signs of presence, hunting traces and gathering photographs that document the *artfulness* of more-than-human life. My practice embraces the random *aesthetic yield* from experience and participation and is interested in the notion of *throwntogetherness* (Massey, 2005) that describes the uncertainty and uniqueness of encounter and entanglement of exchange in place. *Throwntogetherness* can be likened to *indexical drawing* when an unexpected experience signals for a response. This signalling in my practice is perceived as the a*esthetic yield* of the more-than-human that describes an *artfulness* of a visual language that can capture my attention and stop me in my tracks. *Throwntogetherness* is in the momentary pauses of interchanges between objects and interruptions from moment to moment that makes space for close study and responsiveness. Walking opens opportunities for incidents of accident, chance and emotion, a catalyst for happenstance and aleatory connections linking to Doane's notion of the index *as a type of sign caught up in contingency, chance, and accident* (Iversen, 2017). Natural chance presentation is described by Iversen as,

> *'The configuration of meadow grasses, the arrangement of stones on a brook bottom and get away from the idea that an artist makes something 'special' and beyond the world of ordinary things ...there is no a priori reason why moving images should originate only with artists' (Iversen, 2010 p 40).*

Natural chance presentation is crucial to the work of artists Julie Leach and Tim Knowles who explore ideas and processes of *indexical drawing*. Both Knowles's and Leach's work is generated by apparatus, mechanisms, systems and processes. They engineer a situation where the outcome is unpredictable, directed by the elements, for example wind. These operations seek to reveal the invisible forces in the world around us and investigate the nature of hidden ecological systems. Leach claims she facilitates 'nature as artist' (Leach, 2020). Her drawings are created through direct engagement with the processes of the natural world where she says she deliberately relinquishes control to nature in order to bypass the conscious brain and personal ego (*ibid*, 2020). Knowles has produced a series of collaborative tree drawings. He attaches pens to tree branches and strategically places sheets of paper to capture the trees' natural motion as well as their moments of stillness documented by the pen marks onto paper. Knowles says,

> *'Each drawing reveals something about the different qualities and characteristics of the various trees: the relaxed, fluid line of an oak; the delicate, tentative touch of a larch; a hawthorn's stiff, slightly neurotic scratches' (Knowles, 2008).*

Process and language is key to Knowles' work, so each tree drawing is accompanied by a photograph or video documenting the location and the way it was created. Knowles' *indexical drawing* can bring together *artfulness* and the more-than-human, through an interweaving of nature and drawing; however much of this is shaped by metaphor in his descriptions such as: 'fluid line, the delicate, tentative touch, slightly neurotic scratches ….' My practice pushes the boundaries of *indexical drawing* by removing the human engineering element of the process and anthropocentric language of the documentation. With the notion that observing traces solely made by more-than-human life without human intervention can help us overcome our anthropocentrism of representation meeting nature on its own terms.

More-than-human trace does not originate with me as an artist, my role is participatory. Manning claims, 'artfulness activates the art of participation' (Manning, 2016, p 59). Artfulness activates a *thrown-togetherness* with other objects, where I am co-productive and co-dependant on the more-than-human through my animality and embodied experience. *Artfulness* is investigated as drawing beyond human agency, an *aesthetic yield* belonging to the more-than-human. When walking, I take on the mantra of ramblers 'leave nothing but footprints and only take photographs', expressing an attitude of reverence and care towards the natural world.

A mobile phone becomes the container, a recipient (Le Guin, 1986) to gather and carry traces home in the form of a photograph or video. It becomes an exchange between the human and more-than-human. For me the photograph is not the drawing; the photograph is another form of trace, a trace of a trace, a static representation of the drawing that can be viewed again to study and share with others. The documentation of trace in this research is *a way* of sharing my entanglement and kinship with more-than-human life. In parallel to *indexical drawing,* the photograph implies proximity but in the past, contact is now absent, perceived as an echo or flashback of trace, transforming it into a new synthesis for analysis and reflection. The documentation of trace through a photograph is presented like an echo or a flash-back. This relates to Éliane Escoubas notion of the *après-coup* (flash-back) which she describes as the *après-coup* as,

> *'An act - the act of making - that was never seen, that was never seen in its presence… one sees therefore only in the past in memory. One does not see, one sees again' (Escoubas, 2006, p 205).*

The act of the more-than-human *making* the trace is *never seen*. The trace is the result of the index that signals for me to respond - an *après-coup* in my memory, visualising full or partial images, sounds, smells, physical sensations and emotions. Trace is documented digitally to *see again*, analyse, research and share with other recipients, a technique of reproduction and dissemination. Photographs are printed and exhibited as large digital works magnifying the minute details of more-than-human *artfulness*. This magnification is to encourage and engage the viewer to rediscover the *more-than-human* that is often overlooked or ignored. A discovery that can generate surprise, divergence, productive play, stimulate discussion and perhaps change perceptions.

More-than-Human Drawing

Observation relies on my participation as a collaborative object. The *artfulness* of the *thrown-togetherness* with other objects in a particular place does not belong to me but to what Manning calls *art as way* (2016). In the context of this research more-than-human life is not manipulated to be or do something by the artist but instead encountered, found, discovered and interpreted by their own actions, identified and explored as *a way* of drawing. Manning proposes a new definition of art-as-practice as a manner of process, 'To speak of way is to dwell on the process itself, on its manner of becoming (Manning, 2016, p 47). The research explores the *artfulness* of more-than-human trace and asks if the marks presented by more-than-human agency can be a new *way* of drawing that is not controlled by humans with an emphasis on the more-than-human as artful. Instead of projecting what I do on more than human life I take inspiration from it and my attention to their ecology is a way of recognising art and kinship between other forms of life and my own. Catherine De Zegher defines drawing 'as the movement that forms a trace' (2010, p 25). The object of my artistic practice is to pay attention to the traces made by living entities as *a way* of drawing. I start by applying Timothy Ingold's definition of two kinds of trace to show examples of reductive and additive lines that can be found in the more-than-human world, starting with a snail trail - a trace left by the movement of life, described by Ingold as,

> *'...one or other of two kinds: additive and reductive. A line drawn with charcoal on paper… is additive since the material of charcoal forms an extra layer that is superimposed onto the substrate. Lines that are scratched, scored or etched into a surface are reductive ...traces abound in the non-human world…They most commonly result from the movements of animals, appearing as paths or tracks' (Ingold, 2016, p 44).*

When gastropods leave a trail of slime on a pavement, it is additive, equivalent to a line made with charcoal onto a piece of paper seen in my photograph Figure 1: Snail (*Cornu aspersum*) Drawing onto Garden Bricks, 2022. The extra layer of mucus is superimposed onto the surface of the pavement acts both as a glue and as a lubricant helping the snail glide forward when pressure is lifted seen as a silvery line in my photograph Figure 2: Slug (*Arion hortensis*) Drawing, Wyle Cop, 2022. 'One could almost treat line as a verb and say that in the thing's growing - in its issuing forth, in its making itself visible', as Klee (Klee, 1961, p 76) would say - *it lines*' (Ingold, 2013, p 135). I use the verb to draw as a gesture carried out in time through a pulling, dragging or stretching that traces the movement of life, linking to Mannings *art as way* through *the manner of its becoming*.

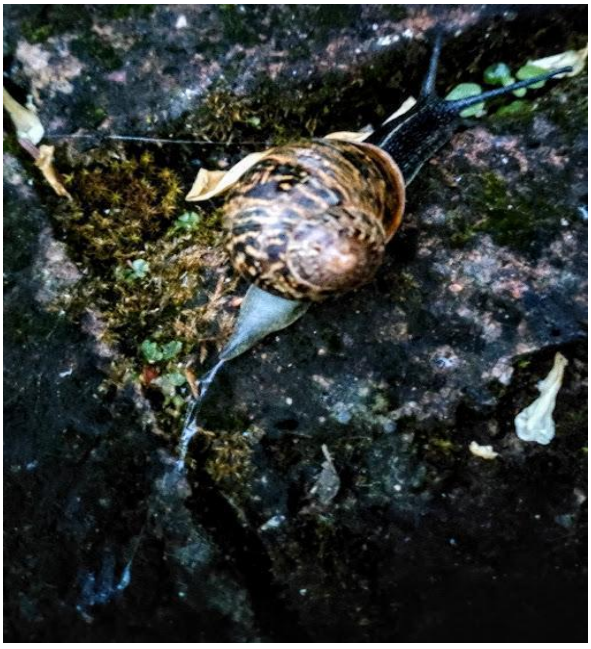


FIGURE 1: SNAIL (CORNU ASPERSUM) DRAWING, GARDEN BRICKS, 2022.

FIGURE 2: SLUG (ARION HORTENSIS) DRAWING, WYLE COP, 2022.

Petherbridge claims the line 'does not *exist* in the observable world. Line is a representational convention…' (Petherbridge, 2010, p 90). My research agrees with Petherbridge in the context of a line drawn by humans as a 'representational convention' of the 'observable world.' Yet my practice thinks past the centrality of the human subject challenging anthropocentrism and considers the idea that a line drawn by the more-than-human reveals and presents itself as the 'observable world' from the trace it leaves in the landscape. For example, the action of a snail's body and tongue-like radula inscribes lines into the algae, the trace is reductive seen in my photograph Figure 3: Snail (*Cornu aspersum*) Drawing, Barrow Street Flat Roof, 2022. Snails graze by sweeping or rasping small particulate materials off a substrate. The marks are created by a complex structure only found in molluscs just inside the mouth called the radula from thousands of radular teeth optimised for different algal and plant types as it scrapes and gouges through leaves and algae. The recognition of the process of feeding and observing the signs from the reductive marks made by the snail offer an *aesthetic yield* that is perceived in this research as a *way* of drawing. Manning claims, 'Artfulness is an immanent directionality, felt when a work runs itself … where it is still rife with intuition, this modality is beyond the human' (Manning, 2016, p 56). Paying attention is a form of respect for the snail's life, its process *as way* and for the *artfulness* of its drawing.

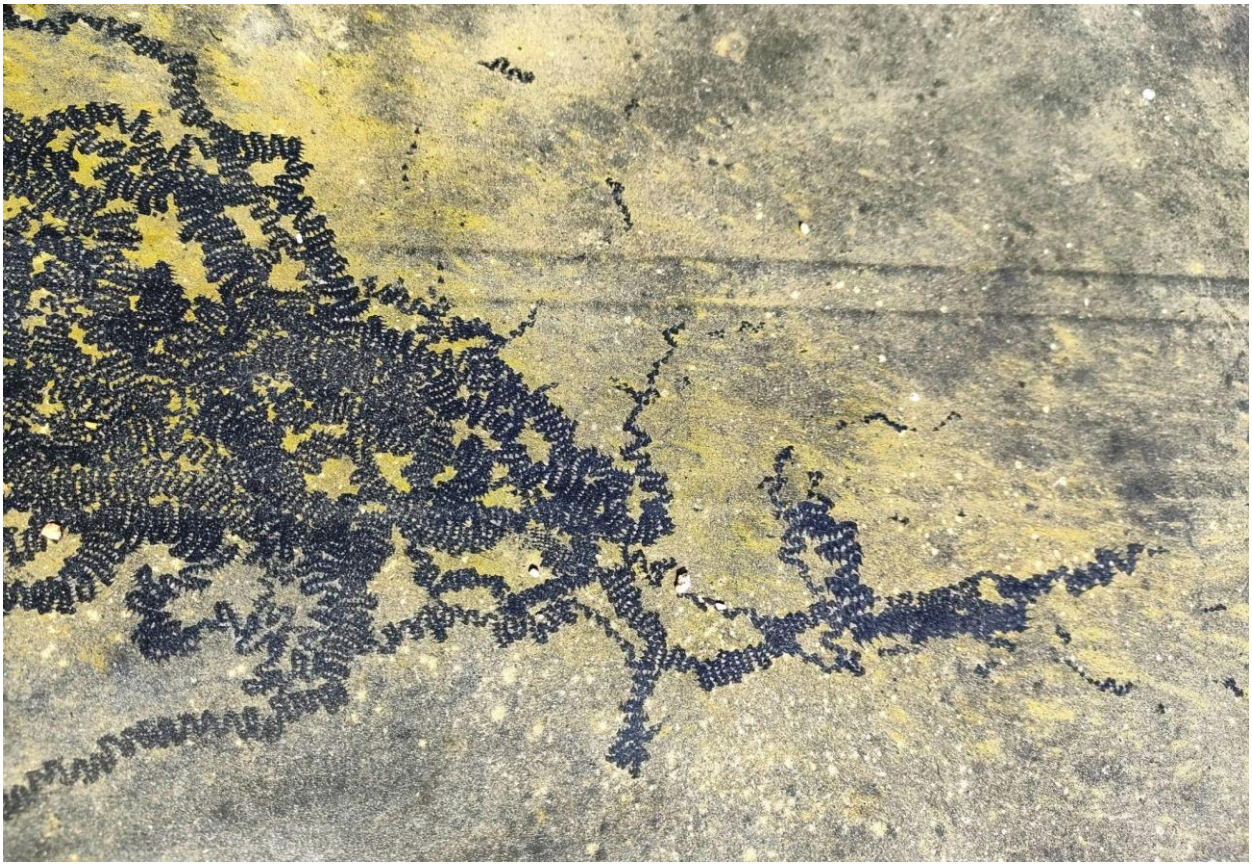


FIGURE 3: SNAIL (*CORNU ASPERSUM*) DRAWING, BARROW STREET FLAT ROOF, 2022.

In my photograph Figure 4: Snail (*Cornu aspersum*) Drawing, Greenhouse Roof, 2021. The drawing is created by snails grazing algae off the glass surface through reductive scraping. An equivalent human artistic process is *grattage*, a technique introduced by surrealist artist Max Ernst that involves laying a canvas prepared with a layer of oil paint over a textured object and then scraping the paint off to create an interesting and unexpected surface. According to Rosalind Krauss, artists such as Max Ernst made use of indexical procedures as a formal means of subverting pictorial conventions and artistic autonomy (Iversen, 2017). This may suggest a long tradition of art imitating techniques created by more-than-human activity in the observable world.

FIGURE 4: SNAIL (*CORNU ASPERSUM*) DRAWING, GREENHOUSE ROOF, 2021.

Snails use their radula to make holes in leaves, stems and flowers seen in my photograph Figure 5: Snail (*Cornu aspersum*) Drawing, Broccoli Rabe (Sylvestris var. esculenta) Leaf. These marks are neither additive nor reductive as described by Ingold but created by a breach through a surface, similar to Tilmann Zahn's torn-paper works that straddle drawing and sculpture. He makes his art by using his hands to tear individual pieces out of paper to create a structure. The research makes a parallel with Zahn's torn-paper works and the torn traces snails and slugs make with their radula into plant leaves, interpreted as drawings ripped by human hands and more-than-human teeth into surfaces.

The outline around the snail's hole is slightly raised, the plant is perceived as participating collaboratively with the snail through a *throwntogetherness*. Plants have various mechanisms for compartmentalisation, a defensive process by which boundaries are formed to isolate the injured tissues so that the living cells behind it do not get infected. The raised, pale green, contour line drawn around the snail's hole made by the plant's defensive system has an indexical quality that captures my attention creating the *aesthetic yield* that is recognised as *artfulness*.

FIGURE 5: SNAIL (*CORNU ASPERSUM*) DRAWING, BROCCOLI RABE (SYLVESTRIS VAR. ESCULENTA) LEAF, 2021.

Ecologically slugs and snails are essential in decay, regeneration and are a major food source. The lines on the leaf seen in my photograph, Figure 6, are made by a moth (*Stigmella aurella*) - a common leaf miner in the UK that mines bramble (*Rubus ulmifolius*) leaves. The larval stage of the moth lives in and eats the leaf tissue, it mines by burrowing and feeding between the upper and lower leaf surfaces, this lets in air, making mining lines. The larva grows then hatches as a moth. Similar blurred lines can be seen in my photograph Figure 7: Leafminer Sawfly (*Phytomyza ilici*s) Drawing, Holly (*Ilex aquifolium)* Leaf, 2022. Unfortunately, these lines are generally deemed unsightly to a keen gardener and the advice is to exterminate the larvae by using insecticides or crushing them between the leaves, even though they are thought not to cause any major damage to the plant. Perhaps if we saw these lines as drawings, we would have a deeper appreciation for them. Numerous species that have recently arrived in this landscape including many new leafminers are contributing to the rapid changes in biodiversity and ecology. I am fascinated by traces left by new species and what this might mean to the future ecology of the places I walk and my *thrown-togetherness* with them.

FIGURE 6: BRAMBLE (*RUBUS ULMIFOLIUS*) LEAFMINER MOTH (*STIGMELLA AURELLA*) DRAWING, 2022.

FIGURE 7: HOLLY (*ILEX AQUIFOLIUM)* LEAFMINER SAWFLY (*PHYTOMYZA ILICIS*) DRAWING, 2022.

More-than-human Thread

When exploring spider webs and other living threads, I am reminded of fungal mycelia and roots. I am fascinated by the striking indexical qualities of spider webs which seem to be full of *artfulness*. When I am paying attention to spider webs, I am reminded of Ingold's two major classes of line that he calls threads and traces. Ingold distinguishes threads as,

> *A thread is a filament of some kind, that may be entangled with other threads or suspended between points in three-dimensional space…An observant walk through the countryside will reveal any number of thread-like lines, although much of the linear order of nature is hidden underground in the form of roots, rhizomes and fungal mycelia. Above ground plants sprout stems and shoots (Ingold, 2005 p 4).*

Ingold's definition of thread could be applied to a spider's web, as spiders are said to 'draw' silk thread from their bodies using their legs pulling threads of silk from one point to another that grows to form a structure: a linear web that traces the spider's movement. I use Paul Klee's comparison of the point in relation to drawing, 'The point sets itself in motion and an essential structure grows' (Klee, 1992, p 21). A spider traces its movement from the strands of silk thread pulled from her body. The connecting lines of silk from one point to another form the sticky droplets of glycoprotein that act as a glue, an outer coating on the thread produced by the spider's aggregate gland. The spider's glue could be compared to the viscous coating on the adhesive sided tapes used in artist Monika Grzymala's drawings to attach to the walls. Grzymala drawings are a movement away from marks on a substrate, the marks are suspended in space supported by walls similar to the spider threads seen in my photograph Figure 8: Spider (name unknown) Drawing between Ivy (Hedra helix) Garden Wall, 2022. Her site-specific drawings leave the page and continue onto walls occupying two and three-dimensional space she calls 'Raumzeichnung' (spatial drawing). Grzymala uses polypropylene tapes with an acrylic adhesive to trace the movement of her body in space where she engages in a full body act of drawing - sticking the tape to the wall's surface then pulling, dragging and stretching the tape, fixing it to adjoining walls. Manning claims 'Artfulness is an immanent directionality, felt when a work runs itself … where it is still rife with intuition, this modality is beyond the human' (Manning, 2016, p 56). My objective is not to try to prove that more-than-human life for example the spider intentionally or unintentionally draws but explores more-than-human trace as *artful* aligning to *a way* drawing. The direction of *art as way* seems to involve the artist participating in as yet unnamed ecological relationships. There is not currently a name for more-than-human drawing. However, there are traces left by the rhythms of more-than-human agency that feel as if they are artful *works that run themselves*. Grzymala's drawings offer an *aesthetic yield* so why can't a spider's webs irrespective of intention be regarded as artful and can be similarly recognised. What is important in this research is the *aesthetic yield* of the trace and not necessarily the identity of the maker.

FIGURE 8: SPIDER (NAME UNKNOWN) DRAWING, IVY (HEDRA HELIX) GARDEN WALL, 2022.

My research challenges the anthropocentric statement by Karl Marx:

> *A spider conducts operations that resemble those of a weaver, and a bee puts to shame many an architect in the construction of her cells. But what distinguishes the worst architect from the best of bees is this, that the architect raises his structure in imagination before he erects it in reality (Baird, 1999).*

It may not be known whether a creature imagines the traces that its activity produces, but why should it be necessary to do so? This takes me back to an interview with Abram (2021) where he states contrary to René Descartes famous quote 'I think therefore I am,' that it is unethical to conceive oneself as an autonomous mind inside our bodies and asks us to explore the word 'consanguinity' - meaning sharing the same flesh, the characteristic of having kinship with other life (*ibid*, 2021) which I now recognise as *throwntogetherness*. This notion lies behind a *way* of paying attention, observing gestures, actions and traces - a shared awareness with more-than-human life. As part of my practice, it is important to think not only with my brain but more importantly to feel with my body exploring my own embodiment, my animality. Abram says,

> *'If the body is my very presence in the world: if without this body, in other words, there would be no possibility of experience - then the body itself is the true subject of experience (Abram, 1996 p 85).*

If my body is the subject of experience then too are all the other entanglements with other bodies for example spiders, slugs, snails, sawflies and plants. It is their lives and experiences that are the agency behind the making of trace.

Concluding with care

I may never have the answers to some of the questions that arise from this research. But as I walk daily, it is becoming apparent to me that drawing is everywhere. As an example seen in my photograph Figure 9: Ermine Moth Caterpillars (*Yponomeuta padella*) drawing onto Hawthorn (*Crataegus monogyna*). These striking webs hide thousands of caterpillars of a group of moths called Small Ermine Moths, a species widely distributed across the UK. The moth's larvae are leaf-webbers and can be found on hawthorn (Crataegus monogyna), blackthorn (Prunus spinosa) and wild cherry (Prunus avium). The dense, white, silk stretches, pulls and trails over hedgerows as the caterpillars take refuge to protect themselves from predators whilst eating the plant leaves from within. Once they hatch as moths these drawings slowly fade and disappear. If drawing can be recognised as an artful language alive in the world around us created by all life, then a better understanding of our entanglement with the more-than-human may have a positive effect on human behaviour. The idea that the artfulness of more-than-human trace may enable a greater attentiveness and compassion for the world on the brink of ecological collapse. Manning says, 'Sympathy allows the movement to be felt, opens experience to the complexities of its own unfolding' (Manning 2016, p 50). Perhaps through these experiences humans can establish a deeper empathy and thoughtfulness for the more-than-human by changing habits and perceptions, meeting nature on its own terms through art. The aim is to contribute to a rethinking and reimagining of ecological processes through care, kinship and *thrown-togetherness* by proposing and perceiving *artfulness* in the more-than-human as *a way* of drawing .

FIGURE 9: ERMINE MOTH CATERPILLAR (YPONOMEUTA PADELLA) DRAWINGS, HARLEY BANK, HAWTHORNE (*CRATAEGUS MONOGYNA*). HEDGEROW, 2022.

References

Abram, D. (2021) *David Abram: The More-Than-Human World.* Available at: https://www.youtube.com/watch?v=t_2B5lyNt_o .

Abram, D. (2011) *Becoming Animal: An Earthly Cosmology.* New York: Vintage.

Abram, D. (1996) *The Spell of the Sensuous.* New York: Vintage.

Baird, S. (1999) Transcribed by Zodiac Html. *Karl Marx* - Chapter Seven: The Labour-Process and the Process of Producing Surplus-Value. Available at: https://www.marxists.org/archive/marx/works/1867-c1/ch07.htm .

De Zegher, C. & Butler, C. H. (2010). *On Line: Drawing Through The Twentieth Century*. New York: The Museum of Modern Art.

Drawing Room. (2023) *Tim Knowles.* Artist Directory. Available at: https://drawingroom.org.uk/directory/artists/tim-knowles.

Iversen, M. (2020) *Indexical Drawing. In A Companion to Contemporary Drawing* (eds K. Chorpening and R. Fortnum). https://doi.org/10.1002/9781119194583.ch14

Iversen, M. (2018) *Index and Icon in the work of Duchamp and Dali.* Available at: https://beta.thedali.org/wp-content/uploads/2018/05/Iversen_-Final.pdf

Iversen, M. (2017) *Indexicality: A Trauma of Signification.* Pages 17–32. Available at: https://doi.org/10.7208/chicago/9780226370330.003.0002 .

Ingold, T. (2016) *Lines.* London: Routledge Classics.

Ingold, T. (2005) *Transformations of the Line: Traces, Threads and Surfaces*. University of Aberdeen. Available at: https://sites.eca.ed.ac.uk/playthink/files/2011/09/transformations.pdf .

Knowles, T. (2008) *The Limbs Limn*. *Artist Project / Tree Drawings.* Cabinet Magazine, Issue 28, Bones. Available at: https://www.cabinetmagazine.org/issues/28/knowles.php.

Klee, P. (1961) *Notebooks, Vol 1: The Thinking Eye*, ed. J. Spiller, trans. R. Manheim. London: Lund Humphries.

Leah, J. (2020) *Artist Printmaker, Julie Leach*. Available at: https://www.julieleach.co.uk/

Le Guin, U.K. (1986) *The Carrier Bag Theory of Fiction*. Available at: theanarchistlibrary.org.

Manning, E. (2016) *The Minor Gesture*. Chapter 2. pp. 46-63. Artfulness: Emergent Collectivities and Processes of Individuation. New York, USA: Duke University Press.

Massey, D. Sarre, P. Clark, N. (2005) *Material Geographies a World in the Making.* Open University Press: Maidenhead, Berkshire.

Neves, J.P.R (01 Apr 2021) *Unskilled beauty or ugly truth? A dialogic study of the indexical line.* Drawing: Research, Theory, Practice, Volume 6, Issue 1, p.15-31 DOI: https://doi.org/10.1386/drtp_00048_1.

TRACEY

Journal

ISSN: 1742-3570

Drawing Anthropocene 2024

Volume 17
Issue 1

DRAWING/CLIMATE: EXPLORING AN ATTENTIONAL MODALITY OF DRAWING

Matt Gunn

University of Tasmania

Climatic chaos has been the rule in the planet's material unfolding, not the exception. The concept of Anthropocene is underpinned by theories of growth and development. Climatic chaos adds greater weight to its environing: burdening, persevering, or what may be called undergoing. This article argues that such an undergoing is a contingent and transformational modality of learning where drawing is understood as a medium of experience, rather than as conventional object experienced in relation. It can therefore leverage a sense of learning into. The approach to drawing in this essay explores an attentional modality of drawing that can offer a process of learning through self-inquiry, which I name flow drawing. This practice is situated within the context of a sandy low-lying isthmus known as The Neck, a geomorphology that connects the two landmasses of lunawuni / Bruny Island in Tasmania, Australia. The work is performed in a dynamic-dialectical mode that addresses the understandings of climate, identity, and the ontological foundations of drawing practice. In doing so, it attempts to raise existential questions and offers practiced paths to follow, rework, and extend.

Loughborough University

ojs.lboro.ac.uk/TRACEY

The Neck

Climate is a medium that encompasses all terrestrial experiences and practices. A relationship to climate prefigures just about everything including diet, shelter, clothing, and language. The climates that environ various cultures are constitutive of a *Long Summer* (Fagan, 2004) known as the Holocene epoch, an exceptionally calm ten thousand-plus years since the retreat of the last Glacial Maximum. This epoch granted *Anthropos* flourishing across the globe. However, there is currently a condition of departure from this relative climatic stability that presents itself in the form of climatic crisis. In the scale of deep time, it is a return to a relative norm of climatic chaos, framed in this essay as a condition inherent to a formulation of an Anthropocene thesis.

The magnitude of this epochal drift includes the demand for participation with nascent psychic content. My work aims to find ways to engage with this nascent dimension by utilizing theory, phenomenology, and drawing. My inquiries typically develop a theme for creative potential, facilitated by an interplay of conventional text and drawings executed both on location and in the studio. Each theme is developed to communicate a particular experiential account within the context of an Anthropocene thesis. Broadly, each theme consistently refers to an experiential dimension of climatic change that is participatory, thus characterized by a *learning into*, because a transforming climate is a forcing function that perpetually disrupts fixed modalities of being in the world.

This work is catalyzed by a situated inquiry in dialogue with global, and thus cosmic, considerations. The location for my work is a low-lying sandy isthmus known as the Neck on *lunawuni*[1] / Bruny Island. The island is located roughly forty kilometers southeast of the Tasmanian state capital of Hobart in Australia. It covers an area of approximately 360 square kilometers with a permanent population of less than one thousand, spread between two predominantly Jurassic dolerite landmasses. These landmasses are connected by the Neck isthmus and its ephemeral late Quaternary period sands. The objective description of the Neck that I have just given is one way of framing it as a conceptual object for creating meaning. However, what my work aims to achieve is developing other ways of communicating the experience of climate form the inside, since the experience of climate is inseparable from habit and habitation.

The reason for situating my work on The Neck is because it holds a significant meaning as a place of attachment. It forms part of a larger narrative of The Neck as a geomorphology that connects *lunawuni* and protects channel communities to the west by creating a barrier to the eastern sea. This place holds a psychological and symbolic presence, which is heightened in the context of increasing climatic volatility. The Neck is not just an object-event exposed to particular moments of climatic volatility. The Neck itself is an event, a constraint of organization for an entire island community, including its emotional attachments. The material conditions of The Neck follow a timeline of global sea level rise, increased weather event severity, and storm tidal surges. These are the corollaries of accelerating coastal erosion and longshore sand transportation dynamics. As a result, the layers of sand-binding grasses and coastal wattles are retreating and erasing, succumbing to the tidal surges that are reshaping the land into new

[1] Place names are guided by advice from the Tasmanian Aboriginal Corporation. Firstly, Indigenous place names are presented in italicised lower-case, followed by conventional colonial settler names. Afterwards, only Indigenous names are presented.

forms. This potentially includes the evacuation of flora, fauna, and practices that are integral to the island communities' organization.

Standing at the narrowest point of the Neck, which barely spans fifty paces, there is a sense that one is standing on a thin thread. From one direction, there is the potential for the disintegration of the Neck's material conditions, which could lead to the separation of the island into two. Simultaneously, from the other direction, there is the hope and ambition upheld by global timelines of economics, technology, politics, and knowledge. The Neck reveals a desire for redemption in positivist narratives of technological prowess, and this impulse obscures the receptivity that bears witness to the Neck's finitude. This is where the process of exploring environmental destruction in a global abstract sense collides with situated inquiry. It is not only a destruction of a physical place, but also confrontational in terms of situated narratives and broader symbolic potentials that hold meaning and significance.

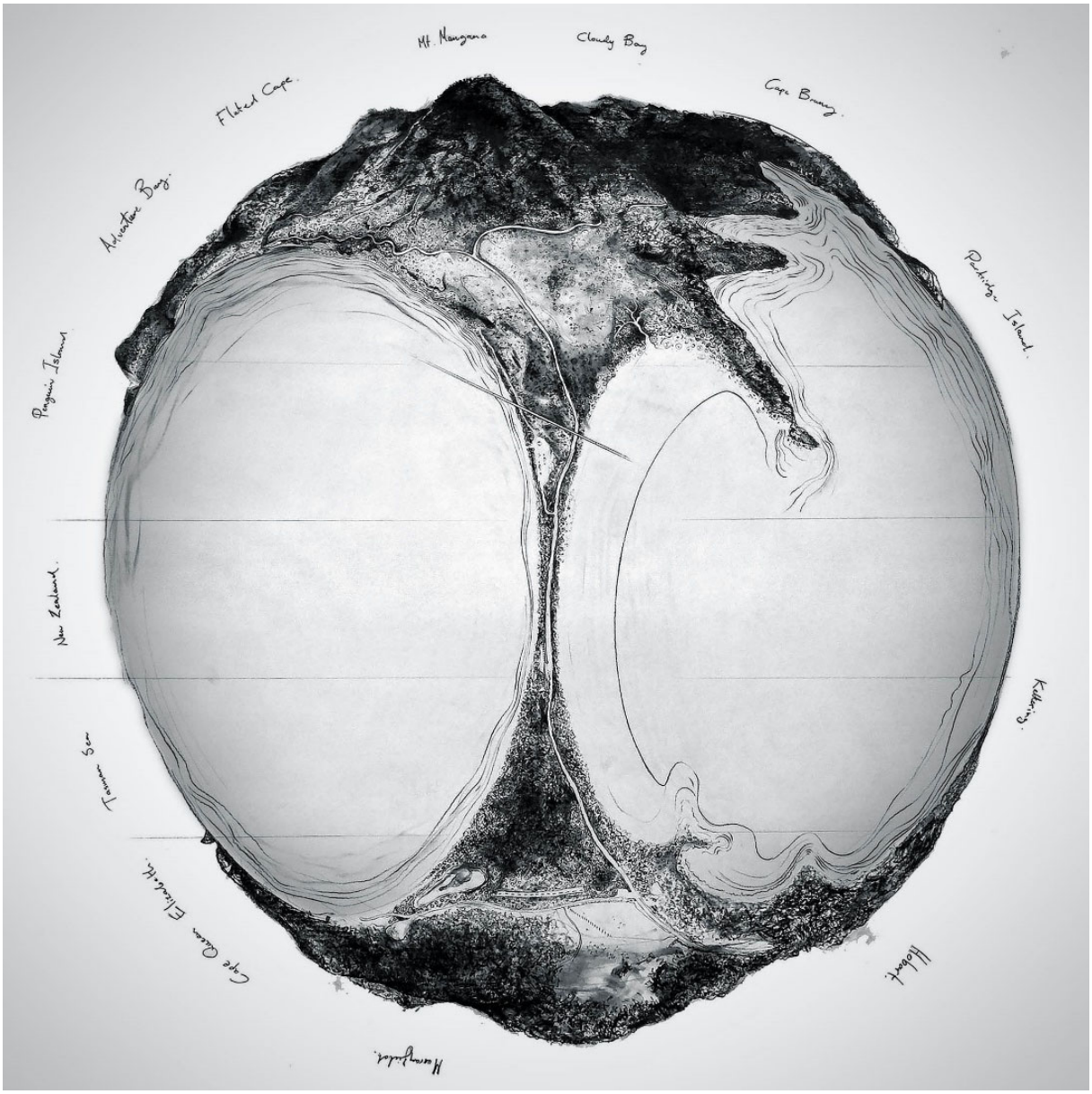


FIGURE 1: [REDACTED], *PLANET BRUNY ISLAND*, GRAPHITE ON PAPER, 150X150CM, 2019.

The Neck is also a place of personal attachment through a lifelong connection to the island. There has been a family presence further south of the Neck for over fifty years. This often involved traversing the isthmus at speed to catch the ferry to the mainland, late-night spearfishing for flounder in Isthmus Bay shallows, sketching along its shores, camping on South Neck Beach, and hiking along Mars Bluff. Simultaneously, there was an absence, an unknown known: the acknowledgment of the island's original *nuenonne* culture. It was not respected; it was willfully destroyed, ignored, and covered up by generations of family and community, including myself. The awareness of the *nuenonne* lifeworld and cosmology provides an impetus throughout my interactions with the Neck, challenging settler colonial values and offering possibilities inherent in reflecting on other worldviews.

Climate

An experience of climatic change historically has been indivisible from adaptive modes of being. The experiential relationship to climate has largely been built on an existence of movement, flexibility, and opportunism in a condition of the sojourn. For the *nuenonne*, less concentrated resources necessitated a relatively large set of specialized skills and activities that were afforded by seafaring. Prior to colonization, their experience of this region was based on seasonal rhythms of movement as the foundation for their lifeworld. They inhabited territory encompassed by rich hunting zones where boundaries coincided with well-marked geographical features, such as rivers and lagoons. These boundaries ranged from a sharp, well-defined line associated with prominent geographical features to a broad transition zone that was typically built on a friendly relation between other groups (Tindale and Rhys 1974, p.325). Groups broke up, dispersed, or reformed according to need. In times of natural disaster, such as drought, a group on the east coast might disperse into other "hearth" groups and visit other areas where there were relatives in other groups (Ryan 1975, p.20). Adaptability through the already contingent ability to roll with the climate's environing was the ground of their lifeworld.

In a similar vein, bioethicist Tetsuro Watsuji (1961, p.2) writes, climate '"environs us"' whether one likes it or not. That is to say, the environment exercises upon "us"'. This occurs in the case of "us" as biological and physiological entities, and in other cases the "us" that compose formational activities of the polity. What is of concern, in Watsuji's examinations of climate, is whether climate should be treated as a natural phenomenon. He understood that it is proper for natural science to treat climate as events of natural phenomena; however, he rejects the phenomena of climate as, in essence, objects of natural science.

Watsuji explores the function of climate as a factor in existence by investigating what he calls the "intentional" (1961, p.2) objective relationship between climate and experience; the common-sense modality whereby climate impresses itself upon us, as in "we feel the cold". It is deemed natural that the cold is imagined as a separate and independent conceptual object, in such a manner whereby the cold infuses the skin and creates a directional or intentional relationship by which one feels the cold. But is this so, asks Watsuji? What does one really know of the existence of the cold prior to feeling cold? It is only when the body feels cold that cold is discovered. It is when the intentional relationship is formed that the cold is discovered to be impressing itself on the body as an external, objective phenomenon. Further to this, he writes that the intentional relationship is structural, "directing itself towards something" (1961, p.3). The feeling of "feeling the cold" is not a moment that establishes a direct relationship to the cold: it is a relationship by virtue of its feeling.

Moreover, Watsuji writes that atmospheric phenomena are not experienced in isolation from others of its kind. Cold has been experienced in relation to warmth, heat, wind, gales, etc. A whole series of phenomena called the weather. The relationality of weather carries on further when one considers descending scales of topography down to the soil. A storm on the Neck may be experienced as a stiff whistling breeze while one is huddling down in tufts of grass, or atop the highest dunes it may be the abrasiveness of the whirling sand that reveals heightened sensitivity in the lips. As the storm surge takes another bite of the dune's escarpment, one may even find that storm ignites a curiosity to write an essay about it. We find ourselves, as an Anthropocene thesis implies, as ourselves, as elemental in the mutual relationship of climate.

What Tim Ingold calls the meshwork (2011, pp.148-149), is the foundation for the enmeshment of agent and environment, it is where everything binds with everything else. To describe Ingold's concept of the meshwork is to start from the premise that every living being is a line, or a bundle of lines, and the interpenetration of lifelines is the mesh of life. His contention is that lives are lived not inside places, but around, though, to and from them, from and to sites elsewhere. Existence is not place-bound, but place binding, unfolding not in places, but along paths. Proceeding along a path, each inhabitant leaves a trail where paths cross and become intertwined. Every intertwining is a knot, and the greater the intertwining, the greater the density of the knot (ibid, p.148). In Ingold's world, where things are coming into being through a process of growth and movement, a bundle is coherence in movement, compounding forces of tension and friction, pulling tight and releasing in a way that is continually generative of new forms.

FIGURE 2: [REDACTED], *KELP BUNDLE*, GRAPHITE ON PAPER, 29X42CM, 2020.

Along Neck beach is a continual and irregular procession of bundled knots of kelp. Depending on conditions, the bundles can consist of bull kelp from the low tide mark, cray weed from slightly deeper water, then further out is common kelp, and finally giant kelp from deep waters. Bundles of kelp flow in a way that belies an initial appearance of thickening or coagulation when strewn on the foreshore. This contrasts with its form in the medium of the sea where it is experienced as a kelp forest, stretching from the seabed, they reach for the surface as trees reaching for the sky.

FIGURE 3: [REDACTED], *KELP AND CUTTLEBONE* (DETAIL), GRAPHITE ON PAPER, 29X42CM, 2020.

The morphing topology of the kelp bundle is such that one can never determine what is on the inside and outside. As Ingold writes (2015, p.23-24), bundles are formed of interstitial differentiation: their surfaces, rather than enveloping their form, lie between the lines that make them up. Ingold, reflecting on how knots and knotting may register in the field of environmental communication, notes that, during their lives, people express this knotting by reflecting how one feels “joined” or “connected” to the lifeworld (ibid, p.20). Perhaps it is the same with perception in the environment: when one encounters any kind of relationship, does this not bring into existence something fresh that is neither one nor the other, but in the process also simultaneously gives something of their own existence? In the meshwork, each constituent line, as it moves along, leaves its own trail from within the interstices that bind it with otherness. Ingold (ibid, p.22) argues that the joining of being is the continual differentiation, and the knots formed in the process are not inclusive or encompassing, wrapped up in themselves, but always within the midst of things. Their ends are on the loose, rooting for other ends to join with.

The bundled lines of the meshwork are joining, but never joined-up, because tying things up would imply finality in a condition of recursive regeneration. Lines carry on as the intertwining of the meshwork; lines possess an internal feel for one another, rather than external conditions. This force is what Ingold, following Deleuze, calls interstitial differentiation. Difference continually arises from the midst of joining within the ongoing sympathy of going along together, it is the process by which beings and things literally answer to one another over time (ibid, p.23).

The metaphor of kelp has been utilized to explore and represent the phenomenon of meshwork, with its quality of binding and knotting. It serves the function of describing the characteristics of meshwork abstractly by pointing to an object of experience. However, what are the principles that underpin interpenetration as the medium of experience? How can these principles provide a relationship to drawing, whereby it is understood as a medium of experience, rather than a reification of subject and object? Any naturalistic representation of the Neck will always be of the past, and this was true well before the arrival of any climate crisis.

Cuttlebone and Recursivity

Yuk Hui’s principle of recursion is functionally constitutive of what he describes as soul. The recursive goes beyond something mechanical or repetitive: it is characterized by a spiraling movement of returning to itself in order to determine itself. Every movement is open to contingency, which in turn determines its singularity (2019, p.4). Hui uses the structure and operation of the spiral, in which it determines its own becoming, partially from the past circular movement that extends its effects and intensity. In the same way, every time the soul departs from itself, it differentiates its own reflection in traces as memory. It is this differing that witnesses the perception of change in the environment, while simultaneously modifying the being that is itself time, that consequently constitutes the dynamic of the whole. Every difference is a differing. Hui writes that recursivity is both structural and operational, through which the relationship between being and becoming is sublated. The sublation gives definition to the oppositional theses (thesis and antithesis), giving rise to and comprising the synthesis. Being is preserved as adynamic structure whose operation is open to the incoming of contingency, which can be called *becoming*, and which implies movement and identity (2019, p.5)

With this sense of recursivity in place, one can observe the cuttlefish bone entangled occasionally within the tendrils of kelp. Cuttlebone (Fig. 4) is found in all members of the family *Sepiidae*, commonly known

as cuttlefish. The internal shell and buoyancy organ are made primarily of aragonite, with a porous and granular texture and brittleness similar to perlite. It is composed of horizontal shells separated by vertical pillars, and the thickness of the pillars gives the bone its wavy form. Furthermore, it has been observed that the cuttlebone is a rich source of calcium for the birds and crabs that inhabit the shores of the Neck, as well as for beachcombers who remove it to supplement the diet of their caged birds at home.

FIGURE 4: [REDACTED], CUTTLEBONE, PHOTOGRAPH, 2020.

It is possible to consider ontological implications of recursivity by looking beyond the material qualities of the cuttlebone, to the structure and operation of its exposed layers. John Dewey's principle of Habit (1922, p.21-32) is illustrative in this regard, in the sense of a recurring pattern that lies beyond direct apprehension. For Dewey, habit is not settled but moving and extends beyond particular activities or modes of conduct to include environmental response. Habit is a life process in which the things one does

perpetually shape the conditions under which both they and others relate. Dewey argued that the basic character of habit is that every experience undergone modifies the one who acts and undergoes the experience, and this modification affects the quality of subsequent experiences, whether one desires it or not. It is an entirely different entity that enters subsequent experience.

The layers of cuttlebone are most easily seen in the convex side. Immersed in a condition of weathering of sea, sand, and kelp, the top layers flake away and reveal a staggered history of its formation. In the newest layer, one still sees the faint traces of the first which blends into the bone's superstructure, to the point where one cannot say where the structure begins and the first layer forms. It is as if there were no actual beginning, just a blending in. This phenomenon is very much reminiscent of the way one looks at the seasonal growth rings of a sawn log. An important distinction is made here: the growth habits are habitual, not intentional. The cuttlefish and the tree do not intend to grow, the growth is based on habit. Intention is always directed towards something, whereas habit is something that happens to the tree when the ground is staked by the seedling. It is actively undergone. One is active, and the other is passive, so how can we act and undergo at the same time, and why did Dewey find it necessary to merge the two?

The merger is critical to what Dewey meant by habit. The undergoing contains the execution. It begins with an intention in mind and ends there with the intention fulfilled in the world. For example, one repeats a task, but they will not be the same person doing it. The one who does a drawing is not sovereign, because what one does is not drawing, but one is actually doer as drawer. To experience anything is to be always already inside it. The experience is something one undergoes and yet this undergoing is active, not passive. It is something one does: to experience anything is to do undergoing. In other words, one dwells in habit, and the terms habitat and clime are intimately connected.

Flow Drawing

I organize my materials and set the intention to *do* a drawing. But once drawing begins, intention falls away and drawing becomes rather differentiated from the actual intention. I become drawing as drawing takes itself for a drawing session. Drawing is there inside itself, animated by pathological rhythms wherein each line modifies itself, not from one state to another, but as a totality of recursive renewal. As the drawing moves along, it is seen that the line is projected futurally in the space between the lines. Past, present, and future are simultaneously attended to as graphite skids along the surface of the paper.

FIGURE 5: [REDACTED], FLOW DRAWING PRACTICE, PHOTOGRAPH, 2020.

While developing this drawing practice, it came to be known as “flow drawing”. A central concern in its development is the potential for bringing out the attentional modality of drawing. The closest precedents found to compare this work have been the artworks of Giuseppe Penone and John Franzen (2016). Fanzen’s drawing is something akin to an enacted, artistic performance of John Conway’s Game of Life ruleset. Franzen’s embodied ruleset is: each line, one breath. The variation that emerges from his practice shows individuation emerging from a simple and focused pattern of behavior into a multitude of patterns.

The context for performing these drawings can be anywhere. They are not intended to be related to as external sites of observation. The observation is focused inwardly to bare sense experience. Pathological symptoms of the nervous system are treated as ecological curiosities to be observed and potentially investigated or dissolved back into nothingness. This occurs through attention being returned to the enacted movement of drawing. There is a further observation on this aspect of dissolving. The term is used intentionally, because in the moment that the ultimately discarded curiosities arise, they appear as subtle and fleeting apparitions of a thought that never had the opportunity to clarify itself. It is like a pot of stew on a stovetop coming to a simmer: there is an intermediary moment where bubbles simply threaten to break the surface before letting go of a tiny whisper of steam and subsiding back down. In this way, it cannot be said what was discarded because only the initial apparition of it registered. As for the drawing itself, it draws itself, with a minimal sense of volition after the initial intention is set.

After inhaling, I draw a long, continuous line with a pencil or pen while slowly exhaling. The nature of this first line can take on subtle differences depending on a myriad of causal circumstances: what is happening in the external environment? Is it cold or warm? how much coffee was consumed this morning?

After this first line, I take another deep breath and begin to exhale, laying down a second line, spaced apart from the first in a way that would allow for an effective gestalt relationship that emerges as a holistic form, one that can be reflected upon in the completed drawing. While drawing this second line, attention is directed to the first line, not the line being drawn. The line being drawn follows the previous line's perturbations. Drawing through this second line, an optimal point of attention is found. This arrives when the speed of the drawing matches the apprehension of the previous line's form. The line being drawn seeks to mimic the previous line in this mode of attention. This is a consciously self-aware mode of subtly swinging back and forth between a state that could be characterized as order and chaos. It involves observing the first line and trying to copy it as precisely as possible, as quickly as possible. Too slow and it becomes illustration, too fast and it becomes scribble.

Then, this process of drawing continues as the recursion of this simple ruleset that has been described. As time progresses one may become attuned to the interval of orderly illustration and scribbled chaos. Like swimming perfectly in the midstream of a river, there is a moment where one cannot legitimately say there is a left bank and a right bank. In this analogy, the drawer cannot say where the boundary between drawing and drawer is at all.

Working through this process and entering an optimally recursive state of mind, the noticing of patterns morphing in time may be registered. As this process speeds up and enters an optimal point, consciousness becomes less viscid, and perceptions of time begin to drift. In that first line that was placed, peaks and valleys emerge by way of small jitters and tremors in my neuro-muscular system; then later, pathological symptoms of fatigue in the shoulder, elbow, wrist, hand, fingers. The peaks and valleys grow larger and deeper, separating and turning into waves and bays that resemble algorithmic Belousov-Zhabotinski spirals and complex patterns. They drift, eat each other, self-terminate, then are born again. The form of their patterning is never identically repeated: forms come into being based on causal interactions of neuropathology that is continuous with the clime. In this way, the non-linear dynamics of this method of drawing remove the mind-body dualism and viscerally demonstrates the attentional and enactive experience of the medium of drawing.

FIGURE 6: [REDACTED], FLOW DRAWING PRACTICE, PHOTOGRAPH, 2020.

FIGURE 7: [REDACTED], *FLOW DRAWING,* GRAPHITE ON DRAFTING FILM, 84X120CM, 2020.

The flow drawings that have been presented here are less concerned with mastery. What is of value is understanding through direct attention. The body undergoes, rather than masters the drawing and its blank page. Aches unfold in the experience of a drawing enacted because the drawing cannot detach itself from the aches perceived in the experience of drawing: they become biographical, and a narrative can unfold that is about them. Not once can I say that this type of drawing is mindless. The drawing itself is thinking, but it is not purely operative at the level of cognition. Drawing is the work of mind freely mingling in the ecology. One does not think while drawing, one thinks as drawing. And this thinking is a way of taking in the world so that the world becomes less the topic than the medium of knowing.

In the undergoing of drawing, one surrenders something of one's agency. The mind's grip on the ecology is revealed in drawing to be the ecology's grip on the mind. As drawing proceeds, the pencil is adjusted in every moment of hesitation and uncertainty. An attentional modality of drawing is what it means to inhabit the practice of drawing. The drawer is no longer the "I" who performs in front of the paper, but exists in the midst of the drawing's environing. In the recursive loop of the drawing returning to the next line transformed, the drawer is continually re-discovering the self by forever apprehending agency in its wake, rather than as intentional cause that follows through. Taking up a fixed position or standpoint while drawing, where one can check up on what is happening in the drawing, continually pulls the drawer out of attention. Flow drawing is then about taking a person out of a predominant disposition with a secure center, in favor of an uncertain future.

To attend to things or persons carries connotation of abiding with them, following what they do. Therefore, it is a practice of conscientiousness. My contention is that the understanding of the habit of drawing, as opposed to the volition of doing a drawing, affords ontological priority to the attentional. Intentions are like the layers of the cuttlebone, signposts of phases in life, revealed in hindsight when plucked from the kelp. Finally, a corollary of the attentional is an ethical dimension that introduces the practice of "taking care": one cares for people and things by giving attention and responding with conscientiousness. The drawer is a being that responds, and the responsiveness precedes agency. As a responsive being, responsibility of care is an action staked rather than claimed, and it comes in the attending to the recursion of the clime in its totality.

Taking Care

Is this aspect of "taking care" just an idea, or is it a real medium of the cosmos, in the same way as a cuttlebone is real? One can measure and research the cuttlebone and the connectivity of its microstructure; it exists as part of the animal kingdom. Is care as real as the cuttlebone? Does neglecting to attend to a duty of care create a real rip in the medium of the cosmos? Entering the Anthropocene under the belief that the cosmos has no moral structure is one option. Another option is to reflect on the moral structure of the cosmos. The erotic merger between the nervous system and drawing, the nervous system and the earth: what is the value of these ideas in the Anthropocene and what can they offer? The drawing practice also reveals a simple truth of habit, knowing that some of the most intimate details of life, such as giving care and attention to a simple drawing, is primary. There is a reality to this private, hidden world, the kind of world that modernity analyzes, and one that post-modernity aestheticizes. Drawing in this way is then a way to reconfigure narratives of the ultimate ecology and how one is nested and enmeshed within it.

When one looks at the way commodity systems relate to nature, it is not a relationship of civilization living in ecosystems. Ecosystems also live within the constructions and paradigms of civilization. The same way a spider may take up residence behind a car's rear-vision mirror, there is a 'double internality' (Moore 2015, p.3) where the individual is contained by the biosphere of the ecosystem, but then the ecosystem is also contained by cultural production.

In this way, the Anthropocene refigures the most basic assumptions of existence, which means there can be a reflection upon the nature of life and the material world. This includes the self-problematizing relationship of humanity regarding its own existence, and the stories humanity tells itself about that relationship. As Cary Wolfe (Anthropocene Curriculum, 2014) remarks, what is the 'auto' of the autobiographical animal? Because the Anthropocene suggests that humanity has never had a linear and intentional relationship to its own stories and concepts, since the very condition of possibility for humanity is technologically based. When one realizes that humanity is comprised of deeply prosthetic individuals that only come into existence based on something that is not zoological, then perennial questions of the natural and the technological begin to be nested within each other.

The nesting of the natural and the technological is a double internality, and it is ontologized in the Anthropocene to the point where there are no externalities. There is nothing other in the cosmos, it is all held within ideas and habit. It has always been the case, yet with the transition to the Anthropocene, and an accompanying perspective of the *modern*, there is a disclosure of double internality that is epochal in magnitude. As has been shown through drawing, it is an issue of subject and object. When subject and object are included in one another, what is more primary, the perceiver or the natural world? An attentional modality of drawing is one way of performing and testing these types of phenomenological and metaphysical inquiries. There are many pieces to the story that surround the nature of relationality that will continue to disclose themselves. One story right now can be the refiguring of care as an ontological reality, not as a cultural construction or a causal byproduct of evolution and matter. Through drawing, the world can look different and thereby one acts differently within it.

References

Anthropocene Curriculum (2104). Is the Anthropocene a Doomsday Device? A dialogue between Cary Wolfe and Claire Colebrook. 12th January. Youtube. [online video]. Available from: https://www.youtube.com/watch?v=YLTCzth8H1M. [Accessed: 31 March 2023].

Dewey, J. (2008). The Middle Works of John Dewey, Volume 14, 1899 - 1924: Human Nature and Conduct, 1922 (Volume 14) (Collected Works of John Dewey), Southern Illinois University Press, Illinois.

Fagan, B. (2004). The Long Summer: How Climate Changed Civilization. Granta Books, London.

Hui, Y. (2019). Recursivity and Contingency. Rowman & Littlefield International Ltd, Maryland.

Ingold, T. (2011). Being Alive: essays on movement, knowledge and description. Routledge, New York.

Ingold, T. (2015). Life of Lines, Routledge, New York.

John Franzen, Each Line One Breath, 2016. Viewed 8th of July 2022, https://www.johnfranzen.com/each-line-one-breath

Moore, J.W. (2015). Capitalism and the Web of Life: Ecology and the Accumulation of Capital. Verso, London.

Ryan, L. (1975). The Aboriginies in Tasmania, 1800-1974 and Their Problems with the Europeans. PhD thesis,

Macquarie University, School of Historical, Philosophical and Political Studies, Sydney.

Tindale, NB & Rhys, J. (1974). Aboriginal Tribes of Australia: Their Terrain, Environmental Controls, Distribution, Limits, and Proper Names University of California Press, Berkley.

Watsuji, T. (1961). Climate: A Philosophical Study. Japanese Government Printing Bureau, Japan.

TRACEY

Journal

ISSN: 1742-3570

Drawing Anthropocene 2024

Volume 17
Issue 1

ENFOLDING THE GARDEN: REFLECTING ON TEMPORAL DRAWING IN THE ARCHITECTURE OF THE ANTHROPOCENE

Samantha Lynch

University of Brighton, UK

With the desire to encourage new perspectives on temporality sympathetic to the indeterminate character of the Anthropocene, this article considers the role of drawing as a method for engaging with this contemporary condition in a critically reflective way. Modes of thinking about time as homogenous, linear, and measurable limit the possibility of the architecture drawing (and thus architecture itself) to posit futures that resonate more sensitively with the uncertain nature of the present. In discussing my own drawing process, framed by the temporal and spatial disturbances at the heart of its development, I invite an inquiry into drawing as a transformative practice relevant to the nature of our changing world.

Key Words: Time, Architecture, Drawing research, Multiplicity, Anthropocene

Introduction

> *"Anthropocene, too, is a garden: a colossal, dysfunctional, and hubris-ridden garden…"* (Iovino, 2019, p 4)

This article seeks to articulate how rethinking temporality can offer new ways of approaching drawing practice with particular relevance to the contemporary condition of the Anthropocene. The Anthropocene, which can be understood as a geological epoch defined by the planetary significance of human activity on ecosystems and climate, reflects a particular temporal condition; one in which the events of the past co-mingle and engage with the present in unpredictable ways. The philosopher Timothy Morton describes it ultimately as the erasure of the present, where our experience is only the rift between pasts and futures (Morton, 2012, p 235). Bruno Latour describes it as a condition of such vast scale and acceleration that we must reinvent every aspect of our existence (Latour, 2014, p 1; 2016, p 356). For writer Noah Heringman it is the 'simple' inscription of humanity into the rock record - an act only conceptually palpable through the framework of deep time (Heringman, 2015, p 58). Drawing has the power to query and ponder such challenging perspectives, and it is here where my particular interest in the drawing process lies. Through drawing I question how my own engagement can help me to understand the world I am in as it changes, and how what arises may open new possibilities for understanding the temporal conditions of the present day. In siting my newest body of drawing research in a garden (part of an allotment plot I have the pleasure to co-share), I am able to connect the drawing process with the seasons, cycles and histories of the site - as well as link to my own time of being on the earth through the conjuring of memory in new ways. Like a kind of contemporary leviathan of everything-at-once, the past is activated into the present. The condition of the Anthropocene is mirrored in the times of the garden; multiple temporalities are enfolded, stratified and neighbouring in non-linear ways.

In elucidating the inquiry of the work, I will discuss my interest in *simultaneous multiple temporalities* and the condition of *neighbouring*, with focus on how these notions might reflect and converse with the contemporary nature of experiential time in the Anthropocene. The ontological shifts that exist between the drawings encourage an oscillation of perspective; no one drawing holds the story (much like no one ecosystem exist autonomously). The contextual synthesis of the work as a process of discovery reveals the nature of what is drawn.

The Temporal Nature of the Architecture Drawing

> *"Any instance and any element potentially can connect or segue into any other, or else may suddenly discover an untraversable distance wedged between itself and what at first seemed closest at hand."* (Kwinter, 2002, p 138)

To position the reader in the work, I will begin by a brief overview of the architecture drawing, in order to reveal how its inherent temporalities offer purchase for inquiry and may have consequence for imagining within and beyond the immediate condition of the everything-at-once that characterises the Anthropocene. The architecture drawing, and here I mean the drawing(s) through which the design is manifest rather than the communicative set of construction drawings, is by nature predictive. It holds the to-and-fro of a conventionally linear time, projecting a future reality onto the page (or screen) within the present. Conceptually this may seem straightforward, and, in general, architects accept this as the

given nature of their discipline. Yet the temporal relationship they inhabit during the design process is anything but. Designing an architecture is a *conjuring* of sorts; an act of manifestation that requires a propositional, inquisitive engagement with the unknown and yet-to-be-realised. Design research, of which the process of drawing is often an active agent, can be described as the simultaneous work of both magician and surgeon (Cruz, 2013, pp 28-29). If we accept a drawing as being an embodiment of its process as well as its result, the architecture drawing is then an active culmination of a nuanced process of gathering, testing and imagining; it is a drawing out of observations, reflections and temporal projections rooted in both the dynamic of the worlds we inhabit–of weather and light, catastrophe and fantasy–and in the shifting fields of the creative act–the ink of tangible pressures and ephemeral desires.

The drawing out of architecture posits a becoming in the world; a process of reciprocation between *a conscious imagining that is contextually rooted* (whether in the intended site, at the 'drawing board', as part of an unfolding practice or body of knowledge, or within contemporary cultural understandings), and *the material world* (here we can include the organic body–increasingly less human-centred as the Anthropocene becomes more deeply understood). Both of these factors are increasingly volatile under the shadow of the contemporary condition. So how can the anticipations and methods of drawing out architecture offer an active voice in shaping the potential for change? It is possible that here the reader will ask, but is there not a more direct way within the discipline of architecture to have impact on the current crises? It is my position that our *contextual understanding* informs our invention, and the act of drawing can influence this. There are effective and critical responses to the symptoms of these crises, but the malaise itself is entangled within a generally misconceived understanding of how we exist in a homogeneous, linear, and measurable time. Architecture bridges between material and cultural worlds, and these together form our understanding. The stories of how we as humans see the world, how we understand the possibilities, are formed in the histories and narratives (whether scientific, political, or cultural) we construct around it. It is my concern to encourage new perspectives on the context of being in time; to bring attention to the fascinating complexity of indeterminate multiplicities. Escaping the prescriptive temporality of convention (and of course our understanding of the past plays such a major role in the context of the present), the role of drawing here invites an embrace of non-discrete and non-linear engagement, and the structural inventions of the research supporting these conditions offer methods of inquiry that rapidly dissolve a static approach. The experiential sustainment of temporal and spatial disturbances and their controlled applications in the body of drawings I share here act to increase the space for the testing and articulation of tacitly sensed opportunity.

The architectural process has been described as having a complexity of "logically irreconcilable and conflicting ingredients" (Pallasmaa, 2011, p 66). The architect Alvar Aalto writes: "In every case, opposites must be reconciled... Almost every formal assignment involves dozens, often hundreds, sometimes thousands of conflicting elements that can be forced into functional harmony only by an act of will…" (ibid., p 66). This *desire* of the architect, drawn (sometimes poetically rather than forcefully) through future possibility to the projective present, has the capability of encouraging the temporal elasticity that is so much a part of the architect's territory. It is in this flexing and dynamic positioning that there is a recognisable place for the architectural process to open and shift. The notion of the Anthropocene reflects this temporal complexity–the contemporary leviathan of everything-at-once. Morton describes this poetically as a "fundamental shaking of being, a being-quake" (Morton, 2013, p 94). In discussing the potential for artists to shape sociological narrative with regard to this condition, T.J. Demos writes: "Ultimately, the art allows us to think with it in the experimental formulation of new

collectivities that might actually contribute to widening social transformation in crucial and necessary ways" (Demos, 2019, p 50). The complexity of creative endeavour may offer a way to engage with the monstrous quaking–the "irreconcilable differences." The move toward collective thinking, as reflected in the rise of second order cybernetics and systemic design, also encourages a non-linear approach to this shared condition. Theorist Serenella Iovino writes: "That is one of the consequences of our becoming geological: all that happens, happens here and now; the ripples of our actions, as well as of our visions, will sooner or later reverberate right at our feet, directly in our gardens." (Iovino, 2019, p 5).

Neighbouring

The main drawings I discuss in this article take place in a garden and are sited here in order to provide a sensitive field of practice sympathetic to the multiple temporalities of experiential time. In the development of these drawings, I am particularly interested in conjuring poetic and remembered time in association with the cyclical lives of the garden and daily transformations of place as seasons pass. The spatial condition of such a garden harbours many intricate temporal worlds – connecting and layering, always responding and creating afresh. The meanings discovered in such a place are almost as complex, as both memory and future arise simultaneously to converse through the drawings themselves.

To set the stage for these drawings in regard to both method and content, I will begin with a description of a particular image that embodies the condition of *neighbouring*, identified in my own work as way of encouraging conversations between multiple temporalities and territories. In the still life painting *Bouquet in a Niche* (ca. 1618) by Ambrosius Bosschaert the Elder, a temporal condition comes into play that stretches and opens the nature of the image. The painting depicts a carefully arranged display of flowers. The vase is full, each flower in a state of perfect bloom. For all its meticulous realism, the painting embodies a contradiction to its initially mimetic appearance; the chosen flowers reach perfect bloom at differing times of season. Thus, we see an impossible bouquet: a gathering of varying temporalities held in conversation with each other. As the flowers act to fold time through their neighbouring condition, they poetically localise exotic regions of the earth. Each bloom at once occupies a unique and a shared moment. The sense of time passing or accruing is held only implicitly through the bouquet's impossible state of 'perfection'. This perfection is the signifier of a different kind of process: the condensation of great swaths of time, populated by lone flowers, merged in image to cultivate a temporal thickness without continuity. The bouquet extends its temporal territory and is frozen by its very artifice.

With the constructed temporality inherent in Bosschaert's bouquet, there is the possibility to discuss multiple understandings at one time–simultaneously. I am interested in the spaces, the amorphous limina that inhabit between these times, made from the field that allows the neighbouring of these blooms. Artists George Quasha and Charles Stein write: "… to be at the limen does not mean to be off-centre or moving away from centrality. For the still point is anywhere that the discovery of the threshold takes place; centre and periphery are one in the present moment" (Quasha and Stein, 2010, pp 214-215).

The act of neighbouring has the capacity to assemble disparate elements and ideas together into a new context. The creation of this context holds a specific power in that it draws attention to that which resides between elements–the threshold of separation. Another, and more temporally disturbing, example, is the garden scene from Alain Resnais' *Last Year at Marienbad* (1961). Here the multiplicity

and simultaneous differing temporalities are made present through the registration of incongruent, impossible shadows. Alongside the bodies of garden visitors, the topiary stands erect, flanking the garden path. The visitors' bodies cast long shadows onto the surface of the ground, which is smooth and whitened by the daylight. The shadows are dark, neat silhouettes against the pale – as visually dominant as the subjects which cast them. Yet the topiary *casts no shadow*. The people are of another time. These two times, the time of the topiary and the time of the bodies, clearly share the same ground. But this ground is registering two very different temporal conditions. The binding field of the ground may absorb this incongruence, but there is no clear definition between these times: it is up to the audience to resolve, or leave unresolved, this paradoxical situation. The condition of neighbouring is thus a dynamic one, neither wholly spatial nor wholly temporal in its constitution, its binding influence held in the flux of the narrative.

The condition of neighbouring in these examples may reflect the primary nature of temporal disturbance in the Anthropocene, where events from the past have the capacity to take sudden action in the present. How might this be explored spatially and metaphorically through drawing? In discussing the agency of the Anthropocene, Latour writes: "There is no distant place anymore. And along with distance, objectivity is gone as well, or at least an older notion of objectivity that was unable to take into account the active subject of history" (Latour, 2014, p 2). Iovino takes this claustrophobia further: "…in the Anthropocene world the mere idea of externality is, by definition, no longer possible–and for a very simple reason: there is no outside anymore, whether in time (the future) or in space (ocean, atmosphere, colonial lands, the poor's backyards)" (Iovino, 2019, p 5). The fields that relate events, times and places are not separate from the things themselves. Culturally there is a necessity to reimagine these relationships, especially if space–the field of existence we've shared since Kant, no longer exists. Object Oriented Ontology as a philosophy, or Donna Haraway's Chthulucene, may provide the larger ontological framework. The creative process also offers place for this exploration, as is implicitly touched upon by the philosopher Isabelle Stengers when discussing engagement in the process of inquiry: "What if we did stop trying to define the terms by which we can 'judge' as scientific Changeux and his neurons, Newton and his planets? Instead, what if we did interest ourselves in the way in which Changeux is truly interested in his neurons, and may succeed in interesting others, including us? What if we interest ourselves in the way in which Newton was interested in his planets and succeeded in imposing the 'irrational' hypothesis of forces acting at a distance on the scandalized scholars of his day?" (Stengers, 2000, p 43). In my own research process, the condition of neighbouring practically allows for the unknown, sometimes irreconcilable forces to converse. Multiple temporalities can sit (unpredictably) with each other, simultaneously, like the flowers in Bosschaert's bouquet.

Simultaneous Multiple Temporalities

The initial research that led to my engagement with simultaneous multiple temporalities as a potential process for understanding temporality anew, began with an interest in the temporal effects of distortions in a semi-spherical convex mirror (Lynch, 2018). These distortions, glimpsed in the cut of the mirror's frame housed in a length of underground corridor, appeared to interfere with standard temporal projections in an intriguing way. By designing a series of reinventions of the dark-tinted Claude Glass, a hand-held device with similarly disturbing properties, I was able to spatially explore this phenomenon. Rendering nature more 'picturesque' through its framing and reduction of the landscape bestowed the Claude Glass, in popular use by artists during the nineteenth-century, a power to fascinate

and engulf the gaze (Maillet, 2004, pp 216-217). My own mirror inventions, the *Displacement Devices* (Fig. 1 and 2), intensify this engagement by constructing an unresolvable oscillation between landscape and mirror worlds, with temporal consequences. Captured in contrast with the naked surroundings, the subtle distortions and displacements of the mirror world create poetic conversation across a dynamic seam between differing times: one stretched in darkness–a wealth of twilight feeling and uncertainty– the other an obfuscated, vivid slice; at once offering very different trajectories to inhabit. Engaging with the device (there are many versions, most are portable and two are built for specific sites), I am able to sustain being in *multiple times at once*.

FIGURE 1: PHOTOGRAPH USING *DISPLACEMENT DEVICE #11*, WINTER 2016

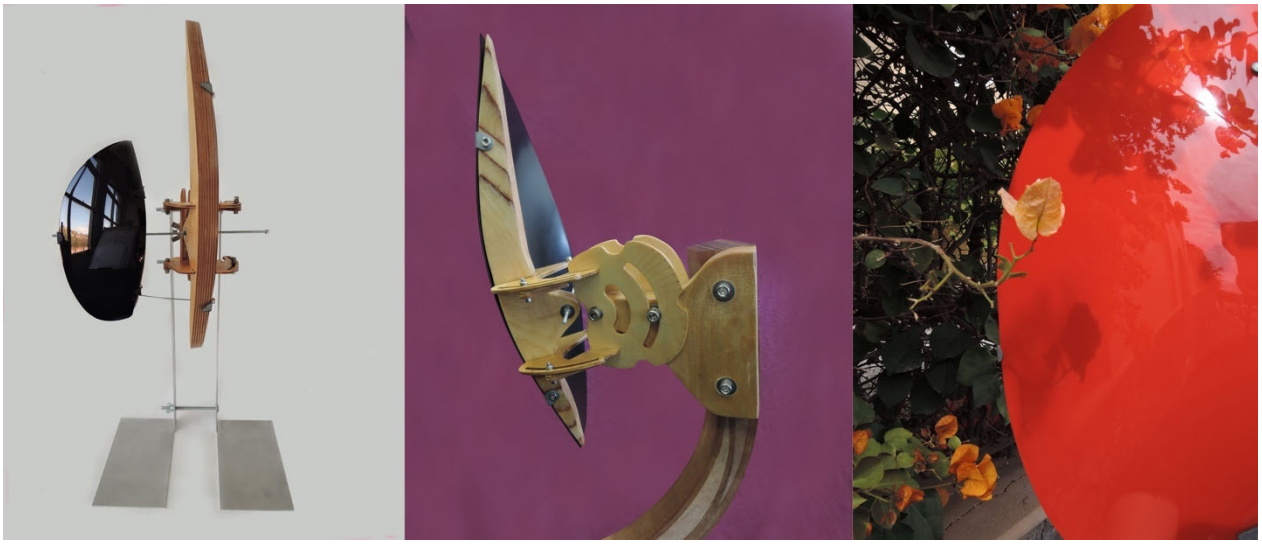


FIGURE 2: DISPLACEMENT DEVICES 02, 03 AND 04, AUTUMN 2014-WINTER 2015.

The complexity of temporal conditions at work in the *Displacement Device* finds expression in drawn form. As touched upon when discussing the temporal nature of the architecture drawing, the act of drawing embodies its own process; there is an inherent reciprocity as one reflects and posits anew, and no particular order is at play. The medium of drawing has visceral capacity for conversing with the ephemeral and for recording the passing of time, as seen in works like Jill O'Bryan's *40,000 Breaths* as she pencils each, or Tacita Dean's erasable sequences of blackboard drawings. Drawing can evoke a multiplicity of times at once. The artist Roni Horn's intricate process, using multiplicity spatially as well as temporally to encourage this, weaves the fast time of the gestural mark with the meticulous, apparently irresolvable time of its reconstruction. The temporal flexibility between the act of drawing and what is drawn allows a resonance of complex relations. In the series *Mirror Drawings* (Fig. 3), where I utilise a dynamic condition to construct the work (folding, cutting, moving), the content arises from relationships formed between territories in a similar manner to the cross-world narratives that arrive in the Displacement Device from the qualities, orientations and shifts in the landscape.

In *Mirror Drawings* the process of mirroring (not a pure mimesis but a temporal act of conjuring) responds to initial marks on the drawing surfaces, marks pre-made through earlier frictions to the paper. The drawings themselves have no fixed positions. They take the inscriptions of moments and desires; a connection or trace sought out or brought into focus. Like in the displacement devices, their neighbouring conditions become spatially non-sequential; they fold and refold, gathering the pre-existing marks into the fray of the new and of the fictional. The moments mimic their neighbours; the drawing surface becomes the mirror. To move around the drawing during its creation is to move through a complexity of relationships. Time slips, accrues, traces events to occlude, transform, and arise in the dynamic of its field. Through the pressures and lingerings of the mark-making the drawing comes to hold its meaning. The seed of the creative process is perpetually within – the paper does not remain the same field of construction throughout the drawing. That any arrived-at status both precedes and projects is the very nature of the work. This slippery dynamic of arising possibility between multiple temporalities, where ultimately differing moments (cut from one another yet unified; giving rise to each other as both source and response) merge to be found as one (like with the stretch of ground between shrub and human in Marienbad), is taken forward in the *Interloper Drawings* series (Fig. 4). Here the

content becomes site-specific (fragmented collages from moments in the space of the gallery populate the drawing surface from the beginning, like the friction-made marks above), drawn in-situ and held in place through a dynamic web of black threads. Constructing simultaneous yet differing times across inhabitable space, the *Interloper Drawings* open possibility to mirror beyond the drawing and out into the enveloping landscape. This sets the stage for the *Garden Drawings*, where the indeterminate choreographies of the drawing language further attune to the temporal complexities of life on site.

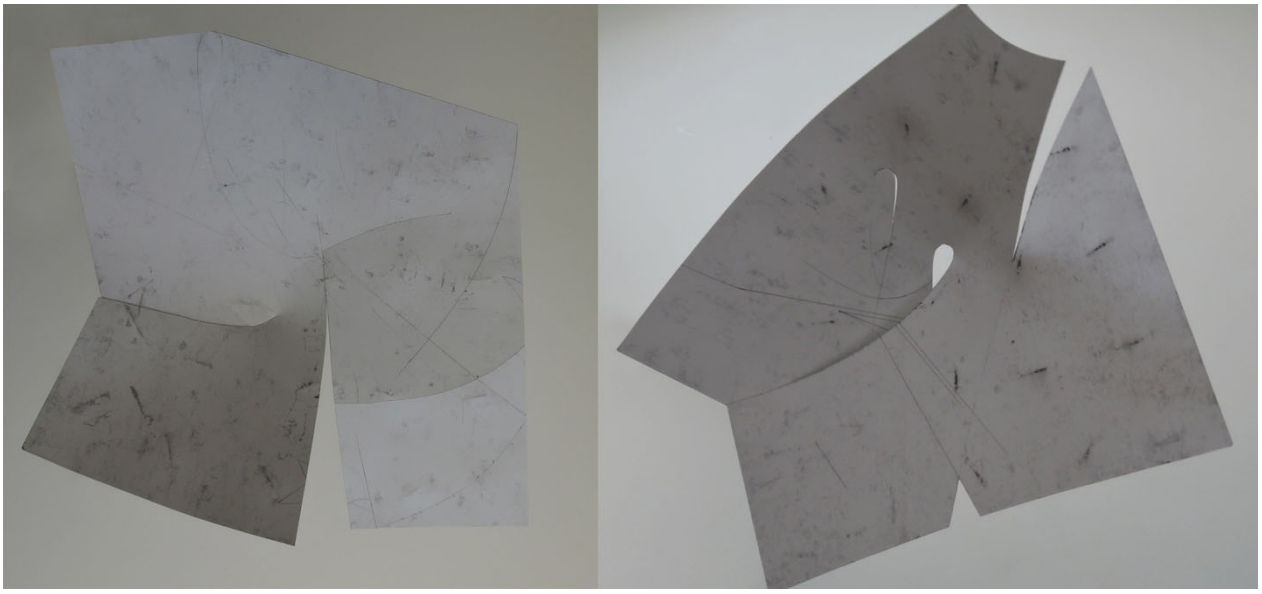


FIGURE 3: (ABOVE) TWO EXAMPLES FROM THE *MIRROR DRAWINGS* SERIES, SUMMER 2016

FIGURE 4: (ABOVE) INTERLOPER DRAWINGS ON SITE, WITH DETAIL (LEFT), SUMMER 2017

The Garden Drawings

> *A painter can cheat. Canaletto painting Venice. Saenredam painting Amsterdam churches. Piranesi drawing Rome. Even Sickert drawing Camden Town. The painter easily invents multiple vanishing points. He is cavalier with scale. He keeps an arbitrary palette. His ubiquitous vision is enviable. He can see – with apparent conviction – both sides of the same wall at once.* (Greenaway, 1997, p 29)

Motivated by the potential for working site-specifically, with an unfixed time scale, and with a site enriched by the temporal and indeterminate complexities of life on site, the newest drawings occupy an allotment garden in Brighton, UK. These become an opportunity to consider how the methods I've created in the Mirror and Interloper Drawings might develop further spatial consequences, informing an architectural approach attuned to dynamic temporal multiplicities. *Garden Drawings* is a body in process. Drawing with a sensitivity to multiplicitous temporal conditions, there is a desire to manifest the ephemeral and encourage the subtle conversations and possibilities arising from neighbouring temporalities.

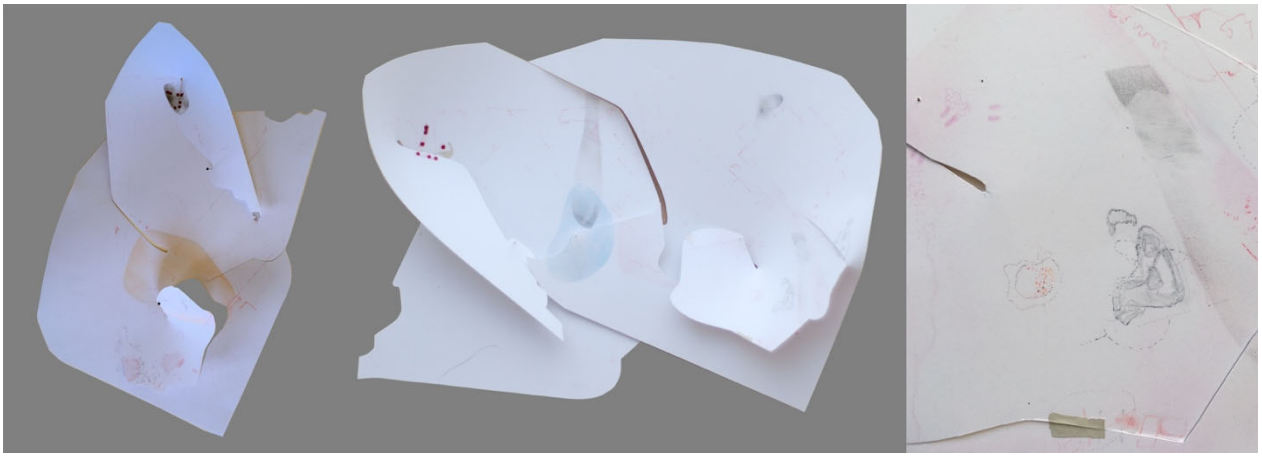
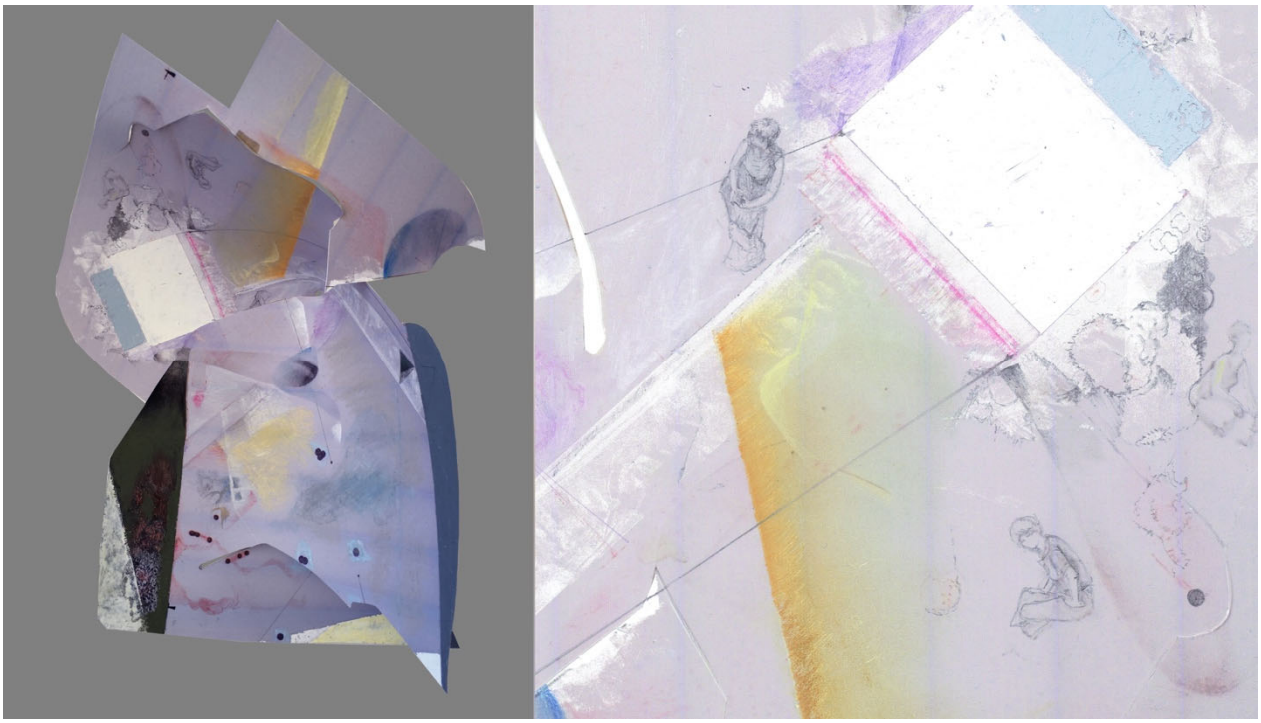


FIGURE 5: *GARDEN DRAWING #1* (TWO SIDES), WITH DETAIL (RIGHT), WINTER 2021

On site a variety of vegetables and flowers grow from seeds of memories. Mostly these 'memory plants' have arrived from colours of future daydreams (for example the cornflower blue dress I imagined wearing when I became a 'grown up') or flavours as particular as perfume (the first time finding a raspberry bush, or handling a russet apple the same shade as its wicker bowl). I have also planted from places I was only ever at the edge of; futures that never arrived (bogbean overlooked in the wilderness of wet prairie, foxglove for an unmade insect garden…). The *Garden Drawings* series becomes a way to neighbour and test out these complex temporal trajectories, both fathomed and real, dense with unfolding and shadowed by incertain connections. These gathered times, like in Bosschaert's bouquet, graft a new language of relation. The drawings nurture a questioning, re-writing and forgetting of events that had once claimed their own discrete trajectories. Via the drawing process, such 'memories' (some reflecting actual occurrences and others the recollections of future desires) have been re-discovered as intertwined. Like in the temporal deep time of the Anthropocene, these events accrue and resurface. Speculations of the future entangle remembered narratives, and what is not immediate appears with a gravity that presses itself into the now. As with the elusiveness of deep time, my own time slips forth incomprehensibly in this place of everything-at-once.

The first of the three *Garden Drawings* (Fig. 5), develops the play between the two sides of the drawing paper, each surface an experiential version of site pointedly aligned to the other, like little wormholes. A geometric play between plan and elevation also populates the drawing. Conjuring marks of the mirroring, as developed in the earlier work, allows a re-orientation that reflects more closely the experiential space of the garden. This re-orientation results in a multiplicity of form. As I draw out from shifting plan/elevation, temporal territories coalesce into tangible places of possibility: the fire finds a home, the snaking of chalk path to the distant hill fort centres the view, the bare flank of the seed shop lights a screen of moving shadows, painted into the drawing *The colour of human eyeballs*. Each move equalises the validity of these dynamic temporalities in forming spatial relations. For example, the memory of the cornflower dress folds, as seen in the bottom detail of Fig. 6 in two positions, is open to converse with an earlier inhabitation of a wooden porch, newly manifest in its experiential similarity to the steps of the garden shed. Once separate events, the dynamic of the drawing (with its process of folds and seams) encourages a simultaneous consideration sited in both garden and drawing. The malleable and temporary zone of the flower thus has dynamic spatial and temporal consequence on multiple levels: new meaning is written as new memories are constructed, opening immediate possibility for how one may neighbour, or gain new knowledge from, anachronous or conflicting ideas.



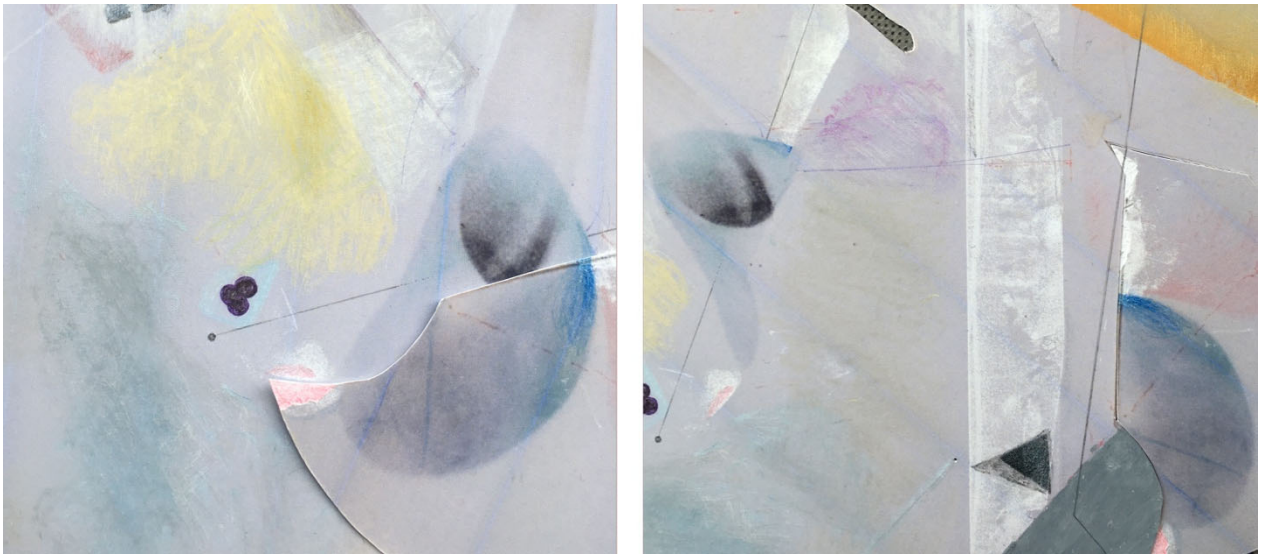


FIGURE 6: GARDEN DRAWING #2 (TOP LEFT) WITH DETAILS, WINTER 2022

The second drawing (Fig. 6) begins to register the new plants and encroaching blackberries using a simulacrum of the first Garden Drawing. The plants grow wilder and new characters emerge. The idea of the drawing as the same-but-different invites contemplation on revisiting memories: memories of memories, manifest and pondered anew. Author Jorge Luis Borges writes:

> *…we can postulate, in the mind of an individual (or of two individuals who do not know of each other but in whom the same process works), two identical moments. Once this identity is postulated, one may ask: Are not these identical moments the same? Is not one single repeated term sufficient to break down and confuse the series of time? Do not the fervent readers who surrender themselves to Shakespeare become, literally, Shakespeare?* (Borges, 2013, p 150).

Here one is invited to consider experience as a sudden, non-linear, and non-discrete event.

The third drawing (Fig. 7) returns almost entirely to the two-dimensional realm of the image, as I take the re-orientation and projections of *Garden Drawing #2* beyond the periphery of the paper. Like in *Garden Drawing #1*, plan and elevation meet fluidly as the drawing oscillates between readings. Distortion, displacement, and notions of topology that were present in the devices occupy the drawing field with more precision. I will share here a passage by architectural theorist Sanford Kwinter, as it highlights a latent potential in the return to the two-dimensional:

> *"Flat," of course, does not mean a diminished or impoverished dimensionality. Quite the contrary, for what we have here belongs more than anywhere else to the world of fractal geometry, a world whose singularity lies in its ability to maintain a prodigious but constant level of complexity at every scale…Flat spaces with n dimensions have for a long time been commonplace in topology; there is no reason they should not be so as well in literature, metaphysics, or politics.* (Kwinter, 2002, pp129-130)

FIGURE 7: GARDEN DRAWING #3, SUMMER 2022

Flatness in the *Garden Drawings* offers a field re-shaped, or a field not-yet-shaped. In *Garden Drawing #3* it becomes a relational tool to gather the plentiful offshoots and projections of new neighbourings. The poetic nature of *Garden Drawings* opens a way for conflicting notions to exist at once; a way that perhaps can begin to unfold the environmental changes that are accelerating beyond modern methods of understanding.

Conclusion

> *Drawing is not a given, available, formed form. On the contrary, it is the gift, invention, uprising [surgissement], or birth of form. "That a form comes" is drawing's formula, and this formula implies at the same time the desire for and the anticipation of form, a way of being exposed to what comes, to an unexpected occurrence, or to a surprise that no prior formality will have been able to precede or preform."* (Nancy, 2013, p 3).

To move towards the crux between what is and what will be is to hold the position of oneself in more-than-one-time at one time. This is the present, or for Morton the rift of past(s) and future(s). The superposition of context experientially informs this unfolding temporal positioning; we naturally consider what opens to the future out of this superposition of multiple temporalities. The surprise–the unexpected territories that arise, come out of a time that is in flux, its needles slipping into the past and future simultaneously. The theorist Karen Barad writes: "Time can't be fixed. The past is never closed, never finished once and for all, but there is no taking it back, setting time aright, putting the world back on its axis. There is no erasure finally. The trace of all reconfigurings is written into the enfolded materialisations of what was/ is/ to-come." (Barad, 2010, p 264). The source and the influence of the material record reciprocate. Through drawing, it is expected that something new will occur, will survive

the tumble of time; it is in its very nature. This itself is projected in the act–a known unknown. Despite all the tumbling and traces, the creative act is experienced as the suddenness of something that was just not there before. To turn to Nancy's anticipation of a form, there is an understanding that this suddenness may take place, not in the emergence of form (though this form has also been brought about for its first time) but in the moment of *realisation*. The power of this realisation is its ability to reflect and project anew, a contemporary necessity in the shadow of the Anthropocene.

In the *Garden Drawings* and earlier work, the anticipation of possibility reveals itself anew through the manipulation of registers (spatial, temporal, poetic) and the subtleties of shifts between the real and the reflected. Like in Bosschaert's impossible bouquet, they find their inspiration in the simple arrangement of entwining impossible times, growing an intended language through poetic and formal exploration that can resonate beyond the personal and find a critical balance. Equalising a shared field of dialogue between uncertain and dynamic events, a non-hierarchical negotiation occurs through engagement with the drawing method. The material surface holds its own influence over the gravity of longing (an idyllic state, a future in balance), whether through distance or time; resistance, release and the elusiveness of temporal stability drive the animation of its relationships, both past and future. The 'modern' modes of linear, homogenous, empirical thinking about the nature of time have not been able to sympathise and articulate the circumstances of our changing environment. For Latour, the Anthropocene has significantly transformed our sense of being in the world: "After having moved from the closed cosmos to the infinite universe, we have to move back from the infinite universe to the closed cosmos—except this time there is no order, no God, no hierarchy, no authority, and thus literally no 'cosmos'…" (Latour, 2014, p 4). In light of this uncertainty, drawing can help us to form new and critical ways of approaching this contemporary condition. The temporal flexibility of the drawing to resonate with the turbulence of the present, whether it be in arising from the architectural context of future-thinking or opening conversations of memory and notions of place, can allow new perspectives to take root. The shared condition of the Anthropocene opens new possibilities to work collectively, and to creatively consider the complexity to which we are responding.

References

Reference to Author's work added, 2017.

Reference to Author's work added, 2018.

Barad, K. (2010). 'Quantum Entanglements and Hauntological Relations of Inheritance: Dis/continuities, SpaceTime Enfoldings, and Justice-to-Come', Derrida Today*,* 3(2): 240-268.

Borges, J.L. (2013). 'A New Refutation in Time', Time, ed. A. Groom, London: Whitechapel Gallery and MIT Press. Original source is Borges' 'Nueva refutación del tiempo (1944-46); trans. James E. Irby, 'A New Refutation of Time', in Borges' Labyrinths: Selected Stories and Other Writings (New York: New Directions, 1964).

Cruz, M. (2013). The Inhabitable Flesh of Architecture*.* Farnham: Ashgate Publishing Ltd.

Demos, T.J., Cotton, C. (2019). 'Art in the Anthropocene', Aperture, Spring 2019, No. 234: 44-51.

Heringman, N. (2015). 'Deep Time at the Dawn of the Anthropocene', Representations, Winter 2015, 129(1): 56-85.

Iovino. S and Thiel, T. (2019). 'The Reverse of the Sublime: Dilemmas (and Resources) of the Anthropocene Garden', RCC Perspectives, No.3: 1-37.

Kwinter, S. (2002). Architectures of Time: Toward a Theory of Event in Modernist Culture*,* Cambridge: MIT Press.

Latour, B. (2014). 'Agency at the Time of the Anthropocene', New Literary History, Winter 2014, 45(1): 1-18.

Latour, B. et al (2016). 'There is no Earth corresponding to the Globe: An Interview with Bruno Latour', Soziale Welt, 67(3): 353-363.

Maillet, A. (2004). The Claude Glass: Use and Meaning of the Dark Mirror in Western Art, trans. J. Fort, New York: Urzone Inc.

Morton, T. (2012). 'Ecology without the Present', Oxford Literary Review, 34(2): 229-238.

Morton T. (2013). Hyperobjects: Philosophy and Ecology after the End of the World*,* Minneapolis and London: University of Minnesota Press.

Nancy, J. (2013). The Pleasure in Drawing, trans. P. Armstrong, New York: Fordham University Press.

Pallasmaa. J. (2011). The Embodied Image: Imagination and Imagery in Architecture*,* Chichester: John Wiley & Sons Ltd. Original source is Aalto's inaugural lecture "Art and Technology" as member of the Finnish Academy, 1955.

Pascoe, D. (1997). Peter Greenaway: Museums and Moving Images. London: Reaktion Books, 1997.

Quasha, G. and Stein, C. (2010). 'HanD/HearD/Liminal Objects', in The Sublime*,* ed. S. Morley, London: Whitechapel Gallery and MIT Press. Original source is Quasha and Stein's 'HanD/HearD/Liminal Objects', in Gary Hill, ed. Robert C. Morgan (Baltimore: John Hopkins University Press, 2000) 126-8; 133.

Stengers, I. (2000). 'Another Look: Relearning to Laugh', trans. P. Deutscher, Hypatia, Autumn 2000, 15(4): 41-54.

TRACEY

Journal

ISSN: 1742-3570

Drawing Anthropocene 2024

Volume 17
Issue 1

DRAWINGS ARE COMPLICIT

Virginia Mannering

University of Melbourne
virginia.mannering@unimelb.edu.au

In Australia it is well understood that landscape drawings, such as surveys and maps have contributed to ecological and cultural disaster on a vast scale. The drawing up of maps, particularly at the height of the continent's colonisation in the eighteenth and nineteenth century resulted in the genocide and relocation First Nations people and the destruction of much of their culture. In addition to this, maps and survey paved the way for drastic transformations of fragile landscapes: for example, from productive riparian zones to farmland and now dustbowls. What is less well-explored, however, is the way the practice of making drawing also resulted in violent transformations to the Australian landscape. To understand this, this paper examines several types of landscape drawings, including maps, surveys, landscape sketches and sections, and geological drawings, from the southern state of Victoria and its capital Melbourne and produced just prior to and in the early years of colonisation. It argues that in order to produce such drawings, artists and surveyors had to exert control over the landscape, sacrificially damaging it for the sake of the drawing. This paper uses a close reading of archival texts as well and historic drawings to argue for an alternate view of colonial drawing, often seen as a passive or heavily observational task.

Keywords: Colonisation, Australia, Surveys, Anthropocene

Introduction

Those engaged in drawing Australian landscapes in the first half of the nineteenth century were both witnesses of and contributors to what we now understand as the onset of the Anthropocene. It is well understood that the creation of colonial maps and scientific illustrations at this time in Australia aided activities that had profound and still ongoing impacts on the First Nations people already occupying the continent (Wegman, 2021). Drawing up maps defined territories and divided ecologies, shifting from a model of First Nations custodianship, or 'caring for country', to a colonist's way of occupying and extracting from land. Indigenous people were forcibly driven from their homelands, which were claimed by colonists under the guise of ownership evidenced through cadastral plans. Surveys and maps allowed for landscapes to be categorized, parcelled, and then radically changed through mining, agriculture, and the development of infrastructures and settlements.

Other imagery - such as botanical, zoological and mineralogical drawings - reflected nineteenth century British and European scientific approaches to scientific orders and taxonomies, and though attempts were made to depict them accurately they were constructed through a Western gaze. Landscapes, flora and fauna that otherwise belonged to complex - and now frequently erased - networked ecologies were decontextualized from their surroundings; the drawings created at this time were in service of dislocated audiences, usually in Britain or Europe, who used such illustrations to understand the colonies, the topography and their natural resources from afar. Illustrations of flora, fauna and geologies were sent to administrators and royal courts, as well as institutions such as museums, rendering them objectified and commodified. Drawings of Australia's exotic species linked distant, fragile and long protected-by-isolation environments into global networks of extraction (Branagan and Townley, 1976).

Large-scale violences to people and ecologies in Australia were instrumentalized through drawings and drawing practices. However, we should not imagine that in this context, that drawing existed as a purely passive or neutral activity; that its role in violence was only enacted conceptually rather than physically. A close reading of archival material demonstrates that in nineteenth century Australia the production of landscape drawings - surveys, scientific illustrations and sketches - required the vandalization or even destruction of the subject landscape. This offers an alternative understanding of drawing to that which portrays the activity as connected to observation, separate from the processes it is trying to record. In the case of British and European surveyors and artists - often the two professions overlapped - the task of making landscape drawings relied on deceptively 'small' activities in the field that had long-lasting implications.

Making surveys or illustrating scientific expeditions required interdisciplinary teams who traversed landscapes and modified them as the operation required. These included experimental seeding, the compaction of soils, picking at geological specimens and felling trees. In isolation, these operations may even appear invisible, a trace of a boot print or wagon wheel, a fallen tree, the slightest adjustment to a creek edge. However, as scholars of the Anthropocene argue, the small scale and slight changes eventually escalate (Hooke, 2000).

Recent studies of First Nations land management practice have analysed the way Australian environments were worked, controlled and transformed by Indigenous people over thousands of years of occupation (Gammage, 2011). Indigenous land management practices worked with existing flora and fauna, situating human practices within wider ecological networks (Presland, 2009). In contrast to settler approaches to land management in the nineteenth century, Australian Indigenous knowledge recognises

extended timescales, understanding landscapes through knowledge accumulated over millennia. Once Europeans encroached on Indigenous Country the transformation of the environment was rapid. It is this increase in speed and scale of change that also characterises the Anthropocene - but these accelerations are almost always prefigured by marks on, and about, the landscape.

In order to better understand the way in which drawing practices directly accelerated dramatic changes to Australian landscapes and ecologies, a set of early surveys are analysed through their drawn materials, the tools and processes used to produce them, and the associated journals and text primary sources. It is possible to see the act of drawing as enacting at least two kinds of violence - the first is the violence of the survey or map that enables colonisation; the second, a stealthier set of violences required to actually complete the drawing in context. It is this kind of violence that will be unpacked and considered in subsequent sections.

Stealth Violences

Contemporaneous images (and reflected imaginaries) of surveying practice present an understanding of the possible violences embedded in the project.

Several cultural institutions in Australia hold versions of a print titled *Surveyors* (Figure 1) created by the lithographer S.T. Gill. Dated around 1864, the image depicts five men engaged in the act of surveying a location in the southern Australian state of Victoria and was typical of Gill's oeuvre. At this time, the Victorian gold rush of the nineteenth century had reached its peak, and Gill travelled to the mining districts depicting prospecting scenes and life and work in the frontier towns that bloomed around the diggings. Alongside mining activities, Gill's lithographs, sketches and paintings captured the fervour of life in cities such as Melbourne and Sydney, the cycles of poverty, joy, civility, debauchery and tragedy. He was "the quintessential Australian colonial artist" (Grishin, 2015).

Gold was discovered in Victoria in 1851, and from that time, populations flowed to the goldfields. The need to draw up the cadastral boundaries of the landscape was acute. While the resulting surveys form key historic documents that allow an understanding of this period in Australia's history, drawings that depict the work of surveyors are seemingly rarer. Gill's lithograph therefore captures an unusual glimpse into this colonial activity. It is this invisibility surrounding the work that has in part masked surveying's complicity in environmental change. While diaries often note extensive landscape modification practices such as tree felling, track-making and botanical activities such as extracting samples and experimental seeding, the recognised legacy of the colonial survey is their output of drawings rather than the physical impacts of their field work.

In the background of *Surveyors* one member of the party looks after a horse and wagon, watching on as the rest of the crew handle various types of surveying instruments. A pair of men each hold an end of the surveyor's chain, one peers through the lens of the theodolite, and the last member of the party holds an axe aimed, seemingly, at the eucalyptus tree next to him. A full colour image, the lithograph is taken from Gill's 1864 compendium, The Australian Sketchbook, a gold rush era collection of drawings and watercolours, with a focus on scenes from the regional and rural or 'bush' landscapes from Victoria at that time.

FIGURE 1: ST GILL, 1864, SURVEYORS

The picture plane in the *Surveyors* is filled with figures, with each character holding their own instrument, demarcating his role in the activity. The axe-wielder is frozen, mid swing, clearing trees to allow for the key activities of surveying: viewing, measuring or traversing. Implied but not perhaps easy to miss in many of Gill's works is the damage caused to the landscapes and ecologies his often closely-cropped scenes depict. An authority on Australian printmaking, Sasha Grishin, notes Gill's keen documentary attention to detail, such as the holes in the ground where miners dig, the beginnings of tent settlements over Indigenous land, dwellings, and tracks. Because of the artist's meticulousness through this image, we are afforded a glimpse into the irony of the process of drawing the Australian landscape in colonial times; in order to record, it needed to be in part destroyed.

A second kind of damage is implied by the presence of the survey chain - which needed a clear run of generally level land between marked points - often requiring the removal of scrub, trees, and outcroppings (Hay, 2021, p.43).

Pioneers Of Civilisation (Figure 2) is an 1895 work by British artist, journalist and traveller, Julius Price, and is held in the Art Gallery of Western Australia's drawing collection. A later depiction of surveyors than Gill's, and geographically separated, this sketch depicts a moment of interaction between Indigenous people and the surveyors. It was sketched by Price as part of his illustrated account *The Land of Gold: The Narrative Of A Journey Through The West Australian Goldfields In The Autumn Of 1895*. Here

the surveyors sit on a fallen log, making notes, peering through the theodolite and again wielding the axe. Accompanying his illustrations, is Price's telling text; "[b]eneath one's feet lay possibly untold wealth only waiting to be developed". The survey drawing was imperative to the extractive project; it not only reflected, but required, a kind of ruthlessness in its production.

Images of colonial surveyors in Australia occasionally depict violent interactions between surveyors and Indigenous people. Surveying activities reflected and amplified aggressive attitudes towards local people. However, also evident in the images, and then in the journals, newspaper reports and reports of surveyors are the incremental, sometimes almost invisible impacts the sire to draw the land had on ecologies and landscapes. A close study of texts and images, combined with contemporary understandings of the Anthropocene and its triggers demonstrate the way early drawing-making contributed to micro intrusions on Australia's landscapes, and studied here, Victorian regional and urban environments. While relatively few images record the act of colonial survey making in Australia, text descriptions are easy to locate.

PIONEERS OF CIVILISATION.

FIGURE 2: JULIUS PRICE, PIONEERS OF CIVILISATION

Seeds of the Anthropocene

During a period of an estimated 60,000 years of continued Indigenous occupation of Australia, First Nations people modified and managed the environments they lived on through controlled burning, fire stick farming, and local cultivation practices such as intensive digging for root crops such as the 'Yam Daisy' or Murnong. The result was areas of cultivated and carefully shaped anthropogenic landscapes that held and reproduced Indigenous knowledge and ways of living. Such practices now are described as 'Caring for Country' a way of viewing relationships across an interrelated web of humans, flora, fauna, soil sky and water that encompass ongoing 'reciprocal' care.

When colonisers arrived in Australia, these reciprocal relationships were overlain by alternate ways of viewing the human-ecological relationship. Landscapes became of interest to governments, industrialists and institutions on the other side of the globe. New technologies such as ploughs, drills and dredgers facilitated the rapid transformation of many Australian landscapes, changing the course of rivers, the denudation of forests, causing erosion and dryland salinity. These types of activities represent large-scale and obvious transformations to Australian environments, however the arrival of the Anthropocene in Australia first manifests in a rapid escalation of transformative environmental activities that begin on a small scale, 'small' acts often related to the operation of drawing, demarcating, or surveying.

Surveys, maps and scientific illustrations that were integral to this process are illustrations that reflect both symptoms of, and catalysts for the Anthropocene. Drawing environments and understanding the natural resources embedded within them was integral to the colonisation of Australia, examined here in particular are the coastal regions which represented early forays into the second wave of British incursion. Drawing necessitated violences on the landscape; through field work such as observation and measuring, and then the way that knowledge, though the drawing transformed understandings, evaluations and composition of the surface of the colonial city. The connection between drawing and colonising is clear, but embedded in this are disturbances of various scales that shift and remake the earth’s surface, physically, culturally and conceptually. Colonial drawing of soil, earth, sediments and geologies involved blasting, cracking, trampling, cutting, burning and digging - to both expose subject material, and to prepare landscapes for survey and recording. It was not in any sense a passive activity.

Drawing in the nineteenth century actively contributed to both visions and actualisations of the Anthropocene, through changes to the geologies in present-day cities and regional landscapes, but also the way the practice of drawing relied on destructive, if micro, processes. In retrospect, we understand that the creation of colonial-era drawings, such as surveys, maps and sketches had devastating effects on the Indigenous people and landscapes, as devices for setting up land auctions, land title and new land uses. Underexplored is the damaging act of creating the drawing itself, that in pursuit of drawing a landscape - in order to understand it - it needed to be 'erased.' It is here that again reflexive ideas of drawing, construction, erasure and deconstruction can be seen. As John West-Sooby writes, natural history drawings at this time were both "a symptom and an instrument of this greater [empire-building] project" (West-Sooby, 2015, p. 55).

Different expeditions and projects required a range of illustrations that reflected different aims and ambitions. This considers the drawn artefacts of larger, subjectively 'disinterested' exploratory surveys, as well as the recordings and markings of more deliberate surveying activities in the service of invasion. Encountering the 'drawn' artefacts of these processes provides a catalyst for discussion and an additional way of seeing landscape drawing. They speculate on moments in Australian history that are now difficult to see and describe in their entirety but can be stitched together, using archival imagery, journals and historic texts and contemporary local readings and evidence of environmental histories.

Charles Alexandre Lesueur and Nicolas-Martin Petit

Following on from the initial British colonisation of the Australian continent in 1788, a series of voyages were undertaken at the beginning of the nineteenth century by French and British crews to further understand and map more completely the Australian coastline. In 1802, Matthew Flinders began his voyage to circumnavigate Australia aboard the British vessel HMS Investigator, while Nicolas Baudin captained the French contingent of the *Géographe* and *Naturaliste*, arriving in Australia in 1801 and unintentionally meeting Flinders along the southern coast of Australia in 1802. The concurrent voyages are often seen as operating in competition, however historians note that ultimately the aims of each circumnavigation differed. Flinders expected to complete a survey of Australia's coastline to better understand its settlement potential, while the French, under the instructions of Napoleon, were to examine the landscape largely for its material and scientific properties rather than its usefulness as a colony.

Important to these expeditions were the visualisations of flora, fauna and landscape, created collaboratively by inter-disciplinary crews. Botanists, zoologists, mineralogists and gardeners provided scientific knowledge, and worked with artists, pointing out the features of note for each specimen. The collaborative nature of the work conducted on the ground here meant that artists on board, such as Charles Alexandre Lesueur and Nicolas-Martin Petit worked in ways that blurred their occupational remit; straddling the fields of art and science.

The museum at Le Havre in France holds a collection of Lesueur's drawings, paintings and etchings from the *Géographe* voyage, however these are the illustrations completed once the artist returned to Europe, and represent a refined reflection on the flora, fauna, landscapes and people the Lesueur and his colleagues encountered on their voyage. Some of the plants and animals drawn by Lesueur, such as the Banded Hare-wallaby are now classed as "presumed extinct" by the Australian Government. According to notes on the species provided by the West Australian government, the wallaby was "first described", in a European scientific taxonomy, by Lesueur with specimens taken in 1801 from Shark Bay.[1] The need to draw and collect specimens coalesced on voyages like these and reflected the small beginnings of an ultimately escalating set of disruptive colonial behaviours.

Historians note that no artist's sketchbooks have survived, limiting the ability to assess Lesueur's total body of work "in the field" in Australia. Individual sketch drawings do, however, exist with one example being a rare drawing in graphite was purchased by the Art Gallery of Western Australia in 2018. The artwork, titled *Cases De La Terre De Lewin*[2], represents in draft form an etching already owned by the gallery and illustrates a moment of encounter the French explorers had with the Noongar people of South-West Australia. Curators from the Gallery of West Australia note the drawing's small size reflected its construction in the field, where resources and space on board the ship limited the size of the image that could be made.

Here, Lesueur has depicted through turn of the century French eyes the dwellings of the Noongar people and the landscape they occupied and managed. The focus of the work is on the First Nations' huts,

[1] Government of Western Australia, Department of Biodiversity, Conservation and attractions, https://library.dbca.wa.gov.au/static/FullTextFiles/071553.pdf

[2] This image cannot be published due to copyright restrictions but is viewable here: https://collection.artgallery.wa.gov.au/objects/24423/cases-de-la-terre-de-lewin-geographe-bay-wa

occupying the foreground of the image, their construction and materiality appears to have been highly detailed and, it is assumed, accurately portrayed by Lesueur. Indigenous people occupy the background, some with spears and others crouching, potentially illustrating the collection of root vegetables - known staples of Australia's Indigenous people - or other surface resources. Because the Noongar people here recede into the background, it is possible that the drawing communicates a passive observation undertaken by the artists here. The viewer's perspective suggests a distanced engagement with the human subjects, however journal entries begin to unpack the political and physical violences directed at First Nations during the voyage and in the pursuit of illustrating it.

The naturalist François Péron kept a journal throughout the Baudin voyage titled *Voyage de découvertes aux Terres Australes* (*A Voyage Of Discovery To The Southern Hemisphere*, published in 1824) which describes in detail the locations visited and some of the activities and events that punctuated the Baudin voyage across 1800-1803. As artists and naturalists worked side-by-side, Peron's writing allows for insight into the attitudes of the artists and their colleagues and they moved across environments foreign to them and the First Nations people they interacted with, as well as the way the surveying and illustrative work was conducted. While some art historians have noted the "sensitive"[3] nature with which the artists captured their subjects, including people, flora and fauna, Péron's journal describes a ruthless attitude to the people and places artists met with.

When at Shark Bay in Western Australia, Lesueur drew the Noongar people's huts in detail, and constructed a scene of picturesque and environmental information. Via the journal it can be seen that the detail described through the drawing does not correspond to a particular sensitivity or care for the subjects, with Péron and his colleagues deriding the technologies and construction techniques they observed and recorded. It was the drawing, and the scientific information it held within that was valuable to a distant scientific and courtly audience. Péron wrote of Lesueur and Petit's work, "These drawings… will ultimately be deemed the most complete and valuable collection that has yet been made by any company of philosophers". Here the subject becomes commodified, objects of fascination to be studied but not respected. They were translated, decontextualized and interrogated through artistic scientific media.

In the same vein as Lesueur's drawing in South-Western Australia, Lesueur and Nicolas-Martin Petit produced drawings and watercolours of scenes in Tasmania; of Palawa people in canoes, flora and fauna and geological profiles. Péron's journal describes many moments of violent European incursion on Australian soil, but an event he outlines in Tasmania most graphically illustrates the connection between the ambition of the artist and the direct and physical violence they were willing to assert to complete their work. While in Tasmania, then known as Van Diemen's land, Petit and others engaged in an "interview" of First Nations people, with one of the aims being to then draw those the crew had met. The discussions did not proceed well, and by Péron's account, ended with one Palawa man "attempt[ing] to take from him the drawings he had just made". This of course infuriated the explorers, and a confrontation occurred, which Péron claimed was eventually diffused. This journal entry emphasises the active nature artists took in the disturbance of early colonial Australia. Their work was not passive or simply observational, it was intrusive and embedded in extractive approaches to people and environments, servicing distanced audiences and interested parties.

[3] See discussion of Lesueur's work here https://www.nma.gov.au/exhibitions/the-art-of-science

Ferdinand Bauer and William Westall

Like Baudin, Matthew Flinders was accompanied by a team of men whose collective knowledge around mineralogy, botany, natural history and expertise in drafting and illustration would provide insight into the Australian coastline, its environment and natural resources. While the Flinders expedition was aimed much more at furthering colonisation of Australia, as with the French expedition, the maps and illustrations produced by Flinders' crew invested in scientific discovery in addition consolidating Britain's position on the Australian continent. On board the *HMS Investigator* were landscape artist William Westall and botanical artist Ferdinand Bauer, the botanist Robert Brown, horticulturalist Peter Good, the miner John Allen, and astronomer John Crosley. The fields of minerology and geology were nascent at this time, with soil science yet to emerge, so occupations such as "miner" or "gardener" acted as stand-ins. While smaller than the French crew, both journeys were highly interdisciplinary, and this demonstrated and approach to drawing the landscape that extended beyond passive observation: whereby it was necessary to dig, fell and interrogate in order to produce the required information and illustrations.

However, beyond the accidental disruption caused by the need to survey and draw the landscape, artists and cartographers also engaged in more direct disruptions. Ferdinand Bauer is broadly recognized as one of the "greatest" botanical artists of the nineteenth century. Bauer's work was considered particularly noteworthy because of the way he worked in the field, drawing flora and fauna where he saw them, using pencil and a numbering system to record the exact colours of the species, "by reference to a table of colours as to enable him to finish them at a leisure with perfect accuracy" (Mabberley et al, 2000, 84). When he returned to Europe he used a colour chart to then translate his pencil sketches into the polychromatic paintings he is best known for.

It was necessary to uproot the plants that he drew in order to complete studies that enabled him to produce more polished and refined works of the same subjects back in Europe. Bauer's work demonstrates the way plant specimens for example, literally had to be destroyed in order to produce scientific imagery. This is not to exaggerate the scale of Bauer's actions; they are miniscule in comparison to the loss of vegetation they came with wider farming and urbanisation that was to creep across Australia further into the nineteenth century. However an examination of Bauer's techniques for observing, understanding and drawing Australia's environments demonstrate the lack of agency and interaction artist and surveys had with the landscape and the alternate types of relationships Europeans had with the Australian landscape: its destruction, however seemingly microscopic, was in the service of providing and disseminating information and curiosities to dislocated and foreign audience, with an interest in extraction and natural history as a field of scholarly and gentlemanly interest.

William Westall's sketch of Mount Westall in Queensland in Australia's North East coast (Fig 3) shows expanded views of the landscape, as a study in the field. To gain such views, artists would walk to high points, disturbing vegetations and making tracks as they went. Although small in scale, these activities marked the first early steps towards the transformation of the Australian coastal landscape here, and a shift from Indigenous custodianship to colonial outpost. The act of walking, a seemingly harmless one, created irreversible damage: the historian Bill Gammage notes that tracks made with hard-soled colonial boots, had the potential to compact the soft and ancient Australian soils (Gammage, 2011, p.29).

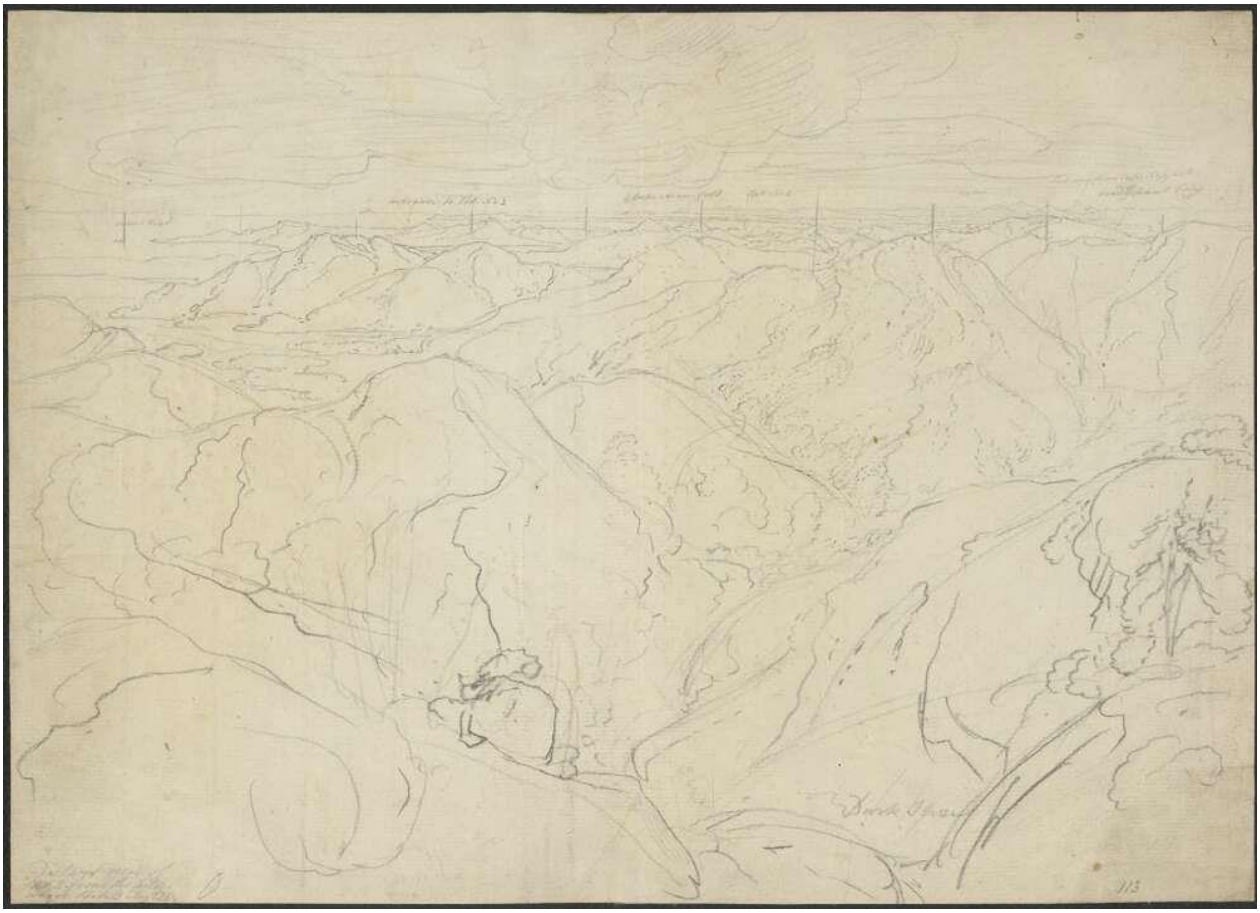


FIGURE 3: WILLIAM WESTALL, MOUNT WESTALL, VIEW SOUTH-EAST, 1802

John Helder Wedge

Though some attempts had been made by the British to evaluate the Port Phillip area, on the southern coast of mainland, for settlement. Previous surveys of the area deemed it unsuitable for the development of a town and the required agriculture, while one small experimental settlement set up in 1803 failed. It was not until 1835 that the settlement, now the city of Melbourne, was established. Two competing groups of pastoralist speculators, led by John Batman and John Fawkner arrived as separate parties and set up camp on the banks of the Yarra River, with the surveyor John Helder Wedge brought from Tasmania to immediately commence an exploratory survey and drawings of the area.

Surveyor's sketchbooks provide a link to the work conducted in the field, and insight into the activities and therefore violence enacted on the Australian landscape in the nineteenth century. John Helder Wedge's sketches illustrate environments that were shaped through the process of drawing, and of incursions directed towards Indigenous people during the earliest attempts to urbanize the Port Phillip area. Wedge's sketchbook begins with a handwritten dictionary or sorts, listing key words that the owner of the notebook might use in communication with Wurundjeri people.[4] It highlights the disturbances to

[4] Wedge's field book is digitized and available here https://find.slv.vic.gov.au/permalink/61SLV_INST/1sev8ar/alma9916380073607636

ecologies and environments, that are tied to the acts of genocide and dispossession directed at Indigenous people, and the two are inextricably linked.

Wedge's sketch book of his time in Victoria in 1835 provides a firsthand account of surveyor activities and the ways in which the practice of survey drawing necessitated direct interaction and disruption to the environments Wurundjeri people occupied. For example, on 6th September, 1835, Wedge depicts the survey party crossing the Peel River at Werribee, what is now an outer western suburb of Melbourne. Wedge's sketch shows one man wading through the creek in order to cross it, while another two clamber across a tree whose low slung branch provides a dry crossing point for some of the group (Fig 4).

The notebook moves between textual information — Wedge's dictionary and site notes — to perspective and visual notes, to those which helped construct his future maps of the area. In August 1835, his notebook includes a map view of the area, overlain with annotations that describe vegetation and soil character, such as "stringybark" trees, qualities of "stone and gravel" and "clay soils". To understand the quality of the soil and log it, Wedge must have engaged in digging it up; his notebook contains an inventory of items taken with him on the exploration, including exploratory tools such as shovels. The terrain covered by Wedge was not a huge distance and can be covered in a day or less. The holes he dug and the tracks through the land were comparatively minute, but they again they foreshadow an escalation of ecological transformations to come.

Wedge's notebook also depicts the activities of Wurundjeri people, such as his sketch of 27th August 1835 documenting women digging for murnong (Fig 5). The murnong was an important food source for Indigenous people of eastern Australia, and Wedge's sketch illustrates Indigenous cultivation practices which changed the shape of the terrain. We can draw from these ways in which settler-colonial activities began to intersect with Indigenous knowledges, and again serve as predictors for land dispossession that was still to come.

FIGURES 4 AND 5: JOHN HELDER WEDGE, SKETCHES, 1835

Kevin O'Brien

The work of nineteenth century artists and surveyors, described in this paper, attempted to illustrate Australian environments and places in what was perceived as accurate ways. The attention to exactitude demanded a particular violence and disruption to be enacted on the space colonial illustrators encountered. There is an irony here, in that the “interest” demonstrated in the locations drawn required their destruction or vandalisation. Also notable though, was the output, often decontextualized or in the case of surveyors, missing key information such as vegetation and trees, reflecting an ignorance of the landscape and an alternate way of viewing it, as a place for extraction and a terra nullius. The Australian artist Kevin O’Brien offers a contemporary counter to this, via an ongoing project first exhibited at the Venice Biennale in 2012 and titled On Country.

In this collective work, O'Brien invited participants - designers and architects - to remove half the grid of the city of Brisbane, revealing a pre-colonial condition underneath. The maps were then collaged on a wall in Venice, offering a large scale "palimpsest" drawing of the city. The work takes aim at what is described as the "18th century European tradition of drawing on empty paper", however it also serves to use the map drawing, a tool of colonisation, as a weapon against itself. Notes on the artwork by the activist collective Down City Streets observe that "[t]he Finding Country position is that this paper is not empty, but is full of what can't be seen" (Down City Streets, n.d.). This position highlights the way colonial drawings missed or intentionally edited out vital parts of First Nations spaces during colonisation, but it might also seek to suggest the way much of the disturbances enacted during the construction of those drawings are not visible through them; they are stealth acts of violence.

The title of O'Brien's work also connects back to the work of the surveyors and artists described through this paper. As Australians begin to address their colonial histories and the transgressions against First Nations people and the environments they lived on, current best practices for being "On Country" demonstrate how the work of cartographers and illustrators contravened the way First Nations people require strangers to act while in the lands of traditional custodians. Current best practice may change from location to location, but these may encompass introducing oneself to the traditional custodians while a stranger "On Country", not taking objects off country and sensitive use of images. (Watt, 2020). While a contemporary set of guidelines, it can be seen how such protocols run contrary to the - largely invisible - activities and behaviours of colonial illustrators and problematises current surveying practices and approaches to landscape drawing.

Conclusion

This paper examines the three surveys that were undertaken in Australia in the first half of the nineteenth century and the ways in which the constructions of associated illustrations and drawings necessitated fieldwork that resulted in small but nonetheless significant environmental change. In addition to field sketches and more polished illustrations, journal entries from officers and crew provide insight into the ways in which the act of drawing required artists and surveyors to engage in acts of violence and disturbance in the pursuit of their work.

The act of drawing the Australian landscape in the nineteenth centuries resulted in a twofold of violences. Firstly and most evidently drawings served to support activities, such as British colonial patterns of settlement, and extractive activities. In the twenty-first century these activities would be seen as participants in the Anthropocene. Secondly and more stealthily, drawing resulted in damage on a smaller, under-recognised, but still critical scale.

The desire and apparent need to know the Australian landscape through drawings and sketches in the nineteenth centuries not only facilitated anthropogenic environmental change, through their reinterpretation and commodification but that the making of these drawings involved destructive activities and violent act that links the production of visual culture to transformative periods in Australia's environmental histories. It is possibly impossible to know the result of these activities but their impact straddles both the and the conceptual. In a time of increased concern regarding Anthropogenic environmental change, and in a country reckoning with its colonial histories, interrogation of the invisible activities embedded in what may appear as "passive" drawings is critical.

References

Branagan, D. F., and K. A. Townley. (1976) The Geological Sciences in Australia — a Brief Historical Review. Earth-Science Reviews, The Geosciences In Australia, 12, no. 2: 323–46. https://doi.org/10.1016/0012-8252(76)90010-6.

Down City Streets. (2015). Kevin O'Brien: Finding Country. https://downcitystreets.com/kevin-obrien-finding-country/.

Flinders, Matthew. "A Voyage to Terra Australis Vol 2." London, 1814. https://gutenberg.net.au/ebooks/e00049.html.

Gammage, Bill. (2011). The biggest estate on earth : how Aborigines made Australia. Crows Nest, N.S.W. : Allen & Unwin.

Grishin, Sasha. (2015.) S.T. Gill & his Audiences. Canberra: National Library of Australia.

Hay, A. (2021). Gum : the story of eucalypts & their champions. Sydney : NewSouth Publishing.

Hooke, Roger LeB. (2000). "On the history of humans as geomorphic agents." Geology 28(9)

Jutila, Heli M. (1996.) "Seed bank and emergent vascular flora of ballast areas in Reposaari, Finland." Annales Botanici Fennici 33 (3).

Mabberley, David J., Erika Pignatti-Wikus, and Christa Riedl-Dorn. "Ferdinand Bauer's Field Drawings of Endemic Western Australian Plants Made at King George Sound and Lucky Bay, December 1801 – January 1802. I." Rendiconti Lincei 11, no. 2 (June 1, 2000). https://doi.org/10.1007/BF02904376.

Presland, Gary. (2009.) The place for a village : how nature has shaped the city of Melbourne. Melbourne : Museum Victoria Publishing.

West-Sooby, John. (2015). An artist in the making: In Framing French Culture, edited by Natalie Edwards, Ben McCann, and Peter Poiana, 53–80. University of Adelaide Press. <http://www.jstor.org.virtual.anu.edu.au/stable/10.20851/j.ctt1t304z1.5>.

Wedge, J.H. (1835) Field book 1835-1836. Port Phillip Papers Digitising Project.

Wegman, Imogen. (2021). "How early Australian settlers drew maps to erase Indigenous people and push ideas of colonial superiority." The Conversation. Available at <http://theconversation.com/how-early-australian-settlers-drew-maps-to-erase-indigenous-people-and-push-ideas-of-colonial-superiority-161097>. Accessed 4 June 2022.

TRACEY

Journal

ISSN: 1742-3570

Drawing Anthropocene 2024

Volume 17
Issue 1

MORECAMBE BAY TIMESCAPES: DRAWING TOGETHER COASTAL FUTURES THAT WILL, MAY, OR COULD.

Serena Pollastri[a], Joseph Earl[b], Liz Edwards[c], Suzana Ilic[b]

[a] ImaginationLancaster, Lancaster University
[b] Lancaster Environment Centre, Lancaster University
[c] Future Places Centre, Lancaster University
s.pollastri@lancaster.ac.uk

This article considers the role of drawing and creative processes of visualizing possible coastal futures as a means for engaging young people in climate change research and coastal management processes.

While predictive models show the impact of climate change in coastal areas around the globe, what will happen to individual places will largely depend on local strategies and interventions. Yet, the complexity of these phenomena as well as the high level of specialisms involved often tends to leave local communities, and young people in particular, unable to participate decision-making processes which will determine the future of the places where they live.

In the Morecambe Bay Timescapes project, three secondary schools and one college across Morecambe Bay were involved in a programme of activities which combined fieldwork, archival research, climate modelling, and art practice which led to the design of visions of hyperlocal coastal futures. These visions were used as part of an interactive exhibition that brought together young people and experts in conversations about possible futures. This article describes the role that drawing played in enabling such conversations, by providing a way for students to work through multiple layers of complexity and articulate their reflections.

Keywords: Coastal Futures, uncertainty, education, stereoscopy

Introduction: entanglements in coastal futures

This article is co-authored by a diverse group of researchers with expertise in design, coastal processes, geography, and education – all of whom working and living in Morecambe Bay and interested in the ways in which coastal futures are made (and by whom) in the Anthropocene.

Of all the places shaped by the Anthropocene, coastal areas are arguably among those where the results of the interactions between humans and non-human entities are particularly visible and significant. Coastal environments are the most populated areas of the planet by multiple species, and are sites of delicate dynamics that are being affected by anthropogenic global climate change (Harley et al., 2006).

All the most recent studies agree on the environmental threats that rising sea levels, acidification, deoxygenation, increased likelihood of heatwaves and extreme weather events are posing to coastal and marine environments around the globe. These are detailed in the latest report of the International Panel of Climate Change (2021), which also exposes the impacts on industries, economies, wellbeing, and cultural and recreational activities already being experienced by coastal communities.

Studies are also showing diminished opportunities for maintaining sustainable cities in coastal areas as a result of these phenomena (Day, Gunn and Burger, 2021). When livelihoods are being threatened by flooding, dangerous weather, and economic losses, difficult decisions have to be taken about how to prepare and adapt. The impact of such decisions will then shape futures of individual coastal communities.

In England and Wales, such decisions are partly informed by Shoreline Management Plans (SMP). These are non-statutory documents which provide coastal adaptation pathways at different time scales, or epochs, up to 2100. An understanding of coastal processes and predictions of future coastal changes form the basis of these plans, which in turn require a comprehensive dataset of coastal changes and their drivers. The data informing SMP is diverse and heterogeneous, and includes, for example, beach and dune elevation changes, inshore wave energy, tidal levels and sea level rise (Bradbury et al., 2002). Implementation of non-statutory SMP pathways requires consent and support of all interested parties (O'Riordan and Ward, 1997), which is usually sought through consultation. However, consultations with the wider public often lead to miss-communication and resistance (Brown, Naylor and Quinn, 2017; Famuditi et al., 2018; Creed et al., 2018). Moreover, the specialised formats and language used in SMPs can also make them inaccessible and meaningless to the wider public.

Often, these documents disregard the perspectives of coastal communities and the tacit knowledge developed by people who have been affected by flooding and weather events in the past. For this reason, it is crucial to engage, motivate and empower local communities to make informed decisions about coastal futures (e.g. Brown, Naylor and Quinn, 2017; Buser, 2020). Young people in particular are rarely engaged in such processes, despite being the ones who will be most affected by the impact of coastal changes.

Drawings feature heavily in documents describing coastal (and more in general environmental) processes and climate predictions. Here, maps, diagrams, and models are employed for their ability to visualise the spatial, relational, and qualitative feature of inherently complex phenomena in a way that words could not. As forms of drawings, they do so by selecting and composing salient information in communicative artefacts aiming to convey clear, tightly edited messages. Often, this is done with the

main purpose of increasing the accessibility of otherwise technical documents to a wider audience. But the value of drawing as a tool for research and engagement should not be underestimated.

That drawing plays a role not only in communicating but also in generating knowledge in environmental studies has been widely acknowledged in the literature on the subject (Anderson, 2017; Casey, 2020). Drawing has been used to visualize patterns of change (e.g drawings of polar expeditions by Stibbon, 2014), subjects that are too vast or too small to capture (e.g. drawings of atoms or the solar system) or those that cannot be directly handled and manipulated (e.g. Sarah Casey's archaeological drawings, see Taylor *et al.*, 2023).

Beyond documenting what exists, drawing is also a powerful tool for speculating on alternative realities and possible futures. Speculative drawings allow the drawer to experiment and test imaginaries and ideas – Including those that would be too impossible or hazardous to implement. Drawings of possible futures may employ graphic ambiguity to bring key concept to the fore while allowing for unresolved details (Herbert, 1988). Drawings are dialectical, in the way they present a visual argument to their intended audience (Goldschmidt, 1991).

In her research on the role of drawing in design and architecture, Goldschmidt (1991) found that sketching is often used as a thinking aid rather than as a way of communicating pre-conceived images. Crucially, for architects, artists, and designers alike, drawing imaginary worlds is never a completely abstract practice: memories, experiences, data, and culture are pulled into the drawing (Cook, 2012) which collages the real and imaginary into visual narratives (Lim, 2013). Drawing as a process, in summary, can be used to work through complex assemblages of data and information to produce propositions and possible scenarios.

This article considers the role of drawing and creative processes of visualizing possible coastal futures as a means for engaging young people in climate change research and coastal management. It proposes a pedagogical approach that brings together fieldwork along the coast, climate data literacy and archival research to inform the design of artistic representations of possible future scenarios presented as stereoscopic Timescapes. In doing so, it explores the potential of using artistic representation as a point of convergence between science and humanities, and to capture and juxtapose observed and speculative, qualitative and quantitative aspects of place at multiple timescales. Drawing, in this project, is used as a key engagement practice, as it allowed students to develop expressive visions of hyperlocal coastal futures that communicate their ideas, aspirations, and fears as responses to climate predictions.

Coastal futures that will, might, and could.

By their own nature, futures carry with them different levels of uncertainty: for any individual future it is possible to speculate on what will, might, or could happen (Bell, 2002). And of course, just like the present, the future is never homogeneous, but characterized by a plurality of coexisting (and often conflicting) realities. In addition, when it comes to complex phenomena such as coastal change, interactions between cultural, political, and social factors should be considered alongside predicted climate patterns for their power of shaping futures that are neither determined nor completely open (Urry, 2016). Even when informed by expert advice, in fact, decisions that shape future trajectories are always inherently built on knowledge that is plural, conditional, and not value-free (Stirling, 2010). This means that conversations about futures also require ways for developing types of knowledge that can capture and make sense of these interactions and plurality. The purpose of such knowledge is to work

through the 'viscous porosity' between nature and culture of the type that American philosopher Nancy Tuana identified in the aftermath of hurricane Katrina in New Orleans. The concept of viscous porosity in this context acknowledges that while individual bodies (e.g. policy makers, institutions, private citizens, water, birds...) might be perceived as different entities, they are also porous in the ways in which their experiences interact and overlap – especially when boundaries are troubled by systemic change or catastrophic events (Tuana, 2008).

All futures, including coastal futures, are inherently pluralistic and uncertain. Current data and models show us how coastal futures will, might, or could unfold, through pathways that are shaped by local policies and interventions. And of course, what the future will, might, or could look like, will be and feel different to different people and in different places. Future visions can be used as a powerful tool to engage people in imagining and dealing with this complexity in coastal space. But it is crucial for these visions to include multiple perspectives and degrees of uncertainty, to explore the ways in which different subjects will inhabit the viscous porosity of coastal environments (Pollastri et al., 2018).

Morecambe Bay Timescapes; engaging young people in research on coastal change.

Morecambe Bay Timescapes was an interdisciplinary project which ran from September 2021 to March 2022. It involved researchers in Design, Computing, and Environmental Science at Lancaster University working with young people around Morecambe Bay to develop visions of hyperlocal coastal futures.

Morecambe Bay

This project was focused on Morecambe Bay, in the North West of England. Morecambe Bay is the largest intertidal area of the UK, and one of the most biodiverse areas in one of the least biodiverse Countries in the World (Hayhow et al., 2019). The mudflats and saltmarshes of Morecambe Bay are particularly important to communities of wading birds, which rely on the rhythms of the tides constantly covering and uncovering the seabed where they forage for molluscs, insects and crustaceans.

The predictable rhythms of the tides also shape the shores and sediments of the bay, driven by the regularity of moon cycles and seasonal patterns. Change can also be unpredictable and destructive, with extreme weather events and storms bringing the possibility of strong winds, heavy rainfalls, storm surges and flooding. Consequently, Morecambe Bay is never still, and historical records can be used to document the movements of shorelines, channels, and salt marshes throughout the years (Pringle (Née Phillips), 1995). The life of communities of humans and non-humans around the bay has historically been redefined not only by tides and weather patterns, but also drastic changes in local economy, infrastructures, and governance that occurred over the centuries. Ancient Viking burial sites, early Christian churches and abbeys, and traces of the Maritime Trade of the 1700's can be found in different locations along the bay. Relics of Morecambe's past economic and social heritage are also visual reminders of lost trades, transport infrastructures and tourism. Young people in Morecambe Bay now grow up with stories (and legends) about the time in which the area was a popular seaside resort, with aquariums, fishing ports, outdoor swimming pools, fair grounds and illuminations.

As a site of intricated and moving entanglements of non-human entities with human-made infrastructures, Morecambe Bay is home to the type of tensions between the unruliness of nature and human attempts of control that Tsing et al. argue are at the core of the Anthropocene (2020). A walk

along the coast reveals traces of floods and storm surges of the past, as well as defences that have been put in place to help preserve human activities along the coast. It also highlights the risks faced by buildings and infrastructures that are close to the sea level, raising questions of what should be protected, how, and at what cost.

Making Timescapes

In the Morecambe Bay Timescapes project, a total of 58 students aged 13-14 years old, from three secondary schools and 13 college students (aged 16 years old and over) took part in a programme of workshops and activities, which was led by the research team in collaboration with art and geography teachers at the four schools. The project addressed the lack of engagement of young people in early-stage conversations and decision-making processes shaping the future of local communities in coastal environments. By bringing together information on past and future coastal changes, local knowledge, and personal histories, this project experimented with ways of engaging young people in secondary schools in envisioning alternative coastal futures.

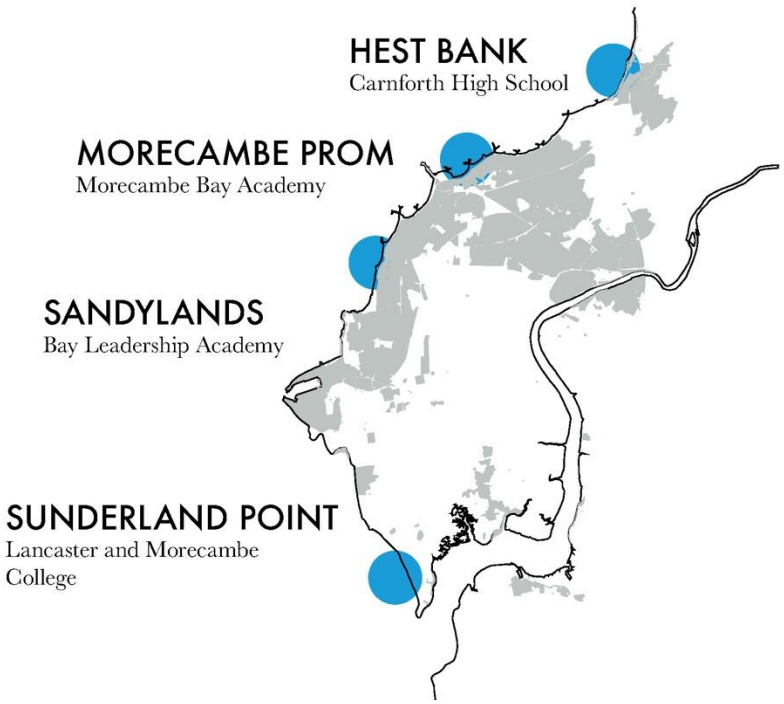


FIGURE 1 LOCATIONS FOR THE MORECAMBE BAY TIMESCAPES PROJECT AND THE ASSOCIATED SCHOOLS

Each school focused on a specific location in Morecambe Bay (Figure 1). For each location, students explored its pasts, presents, and possible futures. This was done through a series of four 2/2.5-hour long sessions delivered at each school. There were slight variations in the sessions that responded to the differences in sites. For example, an artist who makes work about salt marshes contributed to activities at the site where salt marsh was a predominant feature, and in one of the schools the project was run as an intensive 2-days event rather than as weekly sessions. Aside from these variations, the activities were delivered as follows:

Session 1: Noticing the Present

A fieldwork session was organised at each site as a walk along the coast to observe the local environment, discuss historical changes, notice local flora and fauna, identify current coastal management methods and spot signs of past coastal flooding (Figure 2). Students were provided with a fieldwork kit consisting of a clipboard, a map, pencil, binoculars, and bags for collecting samples. The walks followed a pre-planned itinerary, but were somewhat informal in nature. We stopped to notice human and non-human activities, such as people fishing or groups of birds feeding on the beach. Each of the three secondary schools focused on coastal areas that are within the school's catchment area. This was intentional, and experiential knowledge of place was a key part of the fieldwork. Students described their memories and experiences of days at the beach, but also made new discoveries and connections, as guided observations encouraged them to look at familiar landscapes through the lenses of coastal processes and environmental change. The maps used in the toolkit were as open as possible so the young people could add their own drawings and annotations, unencumbered by dense map features, but without the 'scariness' of a blank page. At this stage of the process we purposely avoided directly instructing students to sketch or draw, as these terms would have identified, in the educational setting, formalised activities that are usually evaluated by the art teacher as coursework. Instead, we used words such as 'notice', 'annotate', 'collect', 'capture'. Students returned from the fieldwork carrying treasure-troves of shells, rocks, feathers, sticks, notes, bird names and thumbnail sketches. Back in the classrooms, these were used to populate a large map that gathered insights from the fieldwork (Figure 3). This cartography of place was expanded to incorporate textures, smells, materials, and the traces of landmarks that no longer exist.

FIGURE 2 A GROUP OF STUDENTS DURING FIELDWORK

FIGURE 3 EXAMPLE OF MAPPING THE INSIGHTS FROM THE FIELDWORK

Session 2: Analysing the Pasts

Working with photos provided by local museum and archives, students built timelines demonstrating how places have changed over time. This session started with an introduction of the key changes that shaped the landscape and urban infrastructure in Morecambe Bay in the past, using pictures and documents provided by Lancaster Maritime Museum, Lancashire Archives, and Heysham Heritage Association. The images vividly captured physical, social, economic and environmental developments: from heavy industry and shipping at the turn of 20th century to the booming tourist industry that followed, from the fashion for promenading in the early part of the century to the excitement of diving and beauty contests in the 50s, all interspersed with the devastation of flooding on human activities.

These visual materials helped to show how the sites have been undergoing continuous process of change. The purpose of this approach was to help mitigate the effects of climate anxiety (Crandon et al., 2022) by building an awareness that significant changes have happened in the past, as well as to contextualise past and future interventions in their social and cultural context. The message that the session sought to convey is that interventions (including those for climate preparedness) are never implemented in a vacuum. Looking at Morecambe Bay's past helped understand how the way communities live by the coast have changed, and that it can (and will) change again. Students worked on images from the archives, and identified examples of transport, work, leisure, sea defenses, and architecture, by tracing, cutting them out. They then collaged each category on a different face of the cube corresponding to the specific decade, sometimes drawing into their compositions with elements inspired by the historical images. Drawing was used in this activity as an analytical practice, which prompted students to look closely at historical images, identify key elements for the timeline and trace them to bring important details to focus while omitting less relevant information.

All the cubes were then arranged along a timeline (Figure 4). Some of the images used in this activity were related to the family memories the students described during the fieldwork. Seeing images of young people enjoying the beach, the pools, the fairground, or the illuminations as part of the analytical work of making the timeline, prompted students to consider the contextual elements of individual experiences.

FIGURE 4 STUDENTS DISCUSSING PAST CHANGES USING A THEMATIC TIMELINE

Session 3: Understanding Futures

The third researcher-led workshop of the series stared with a masterclass in coastal-management practices, which introduced students to how environmental data are collected and used to build predictive models – and how these models constitute the basis for the design of interventions. Through graphs, maps, and satellite views, students were shown the changes that have been recorded and those that we might expect to happen in Morecambe Bay, but also the uncertainty embedded in thinking about the future, and how small variations may lead to vastly different scenarios. We discussed the ways in which recommendations for local actions (including SMP's) are designed to consider different degrees of uncertainty, and the need for testing interventions against a variety of possible scenarios. International examples of how communities are developing preparedness to climate change and resilience to flooding were presented, focusing on a vast portfolio of interventions, including barriers, but also sand dunes, salt marshes, and community relocation. After the presentation, students used a wave tank and building bricks to design, prototype and test the efficacy of different prevention and mitigation strategies (Figure 5).

FIGURE 5 STUDENTS TESTING IDEAS IN A WAVE TANK

Session 4: Designing postcards from the future

The creative process of developing future coastal visions was then initiated through a session in which students were asked to design postcards from the future. Students were given a frame for their postcard and a template to write a description of their vision in the form of a greeting card. The template read "Dear [name], This is a view of [something] in [place] where [something or someone] is/are [doing something]". Students worked in pairs to develop the initial postcards, and found the template helpful to facilitate a discussion on the type of future that was going to be portrayed. During the session students were allowed to use different techniques, and to incorporate pictures produced or provided in the other sessions. While in some cases the visions produced for the postcards were developed into the future outputs, the main purpose of this activity was to start a process of turning the insights developed through the different sessions into tangible imaginaries (Figure 6).

The teachers then went on to leading and supervising the activities in the two months that followed. As a result, each of the secondary schools focused on one specific technique (ceramics, digital media, collage), while students from the college explored a number of techniques (from print making to digital illustration) and developed mixed media artworks. In January we received all 54 visions from the 4 schools. These visions were created either individually or in groups of 2 to 4 students.

A final event was held on 11 March 2022 at the Midland Hotel in Morecambe. Approximately 90 people attended the event, including 52 young people and 22 invited experts who lead discussion tables with the students. The list of experts participating in the event included representatives from local cultural and environmental organisations (Wildlife Trust, Morecambe Bay Partnership, Lancaster Maritime Museum, Heysham Heritage Association), members of Lancaster City Council, a nature writer, a historian focusing on Transatlantic Slave Trade, architects, representatives from the Environment Agency and North West Coastal Monitoring Programme, and a local artist.

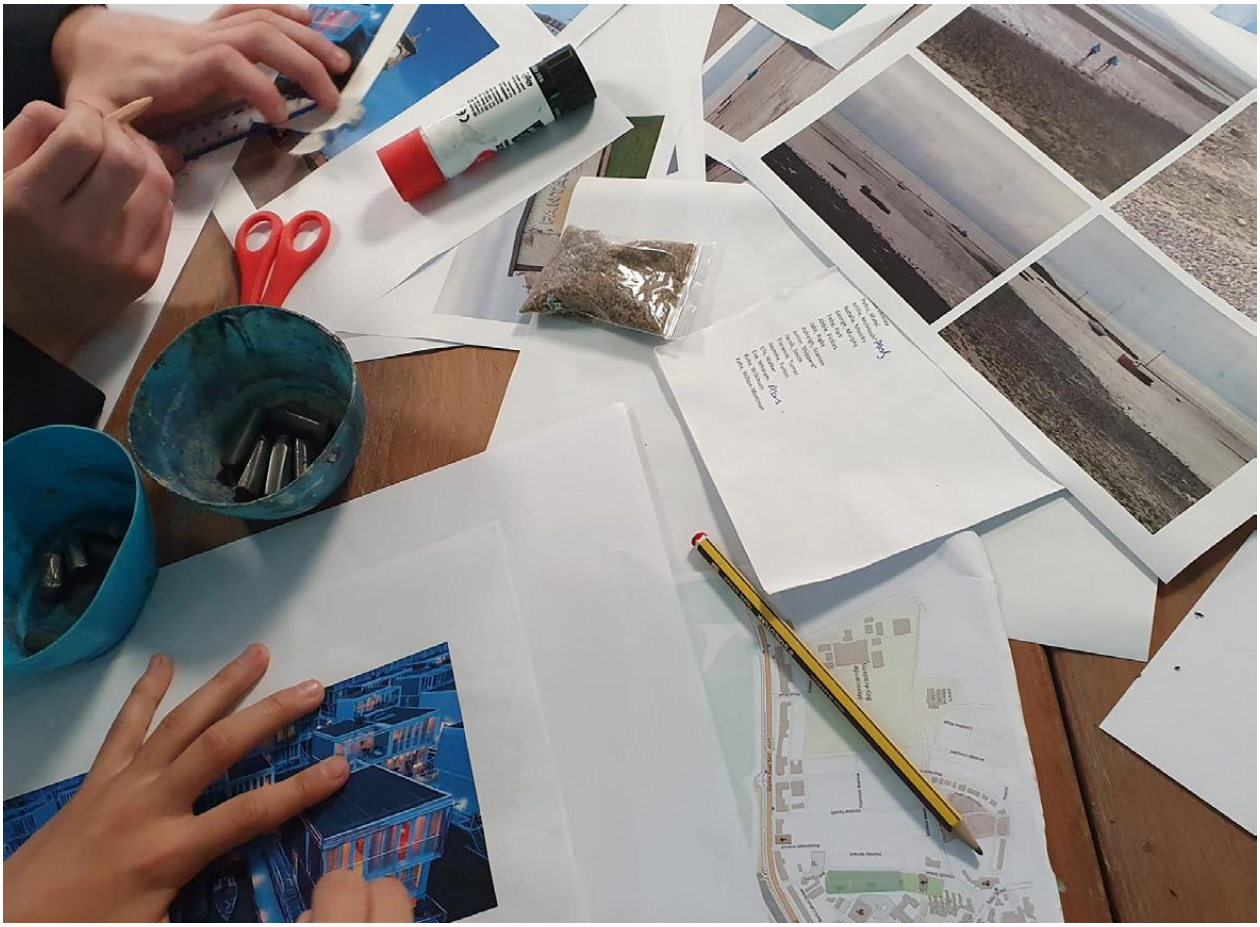


FIGURE 6 STUDENTS USING DIFFERENT TECHNIQUES TO COMBINE REFERENCE IMAGES FROM PASTS AND PRESENTS INTO THEIR VISIONS OF THE FUTURE

The event was structured around two spaces: a room for discussion tables and the exhibition. Around the discussion table young people and experts discussed their view on the future of the Bay; students led the visit to the exhibition and described their work and artistic process (Figure 7, Figure 10).
This final event was as much of a celebration of the students work as a platform for experts and students to engage in rich conversations about coastal futures. In some cases, some of the ideas presented in the students' visions were used by experts to illustrate and explain actual interventions that are being discussed and planned for the area (e.g. flood walls, regenerated saltmarshes, etc.). Students asked questions and expressed opinion on the desirability of different options. They used their artworks as boundary objects that facilitated complex conversations, and helped mitigating power dynamics, language barriers, and hesitancy in speaking out.

FIGURE 7 IMAGES FROM THE FINAL EVENT

The visions designed by the students were digitized by the research team, and printed as reels of stereographic images which were included in a series of zines presented at the event. Stereoscopic images (stereographs) are pairs of images in which elements of the foreground are displaced slightly to create a 3D effect when these images are viewed through a device called stereoscope. Bespoke stereoscopes were designed and produced for the project, and presented at an interactive section of the event (Figure 8). Loosely inspired by the coin-operated telescopes often found along the coast in Morecambe Bay, the stereoscopes were placed by windows overlooking the sea. Unlike the telescopes, which are used to look at faraway places around the bay, the stereoscopes were used during the event to look far ahead in the future, through lenses of the visions designed by the students.

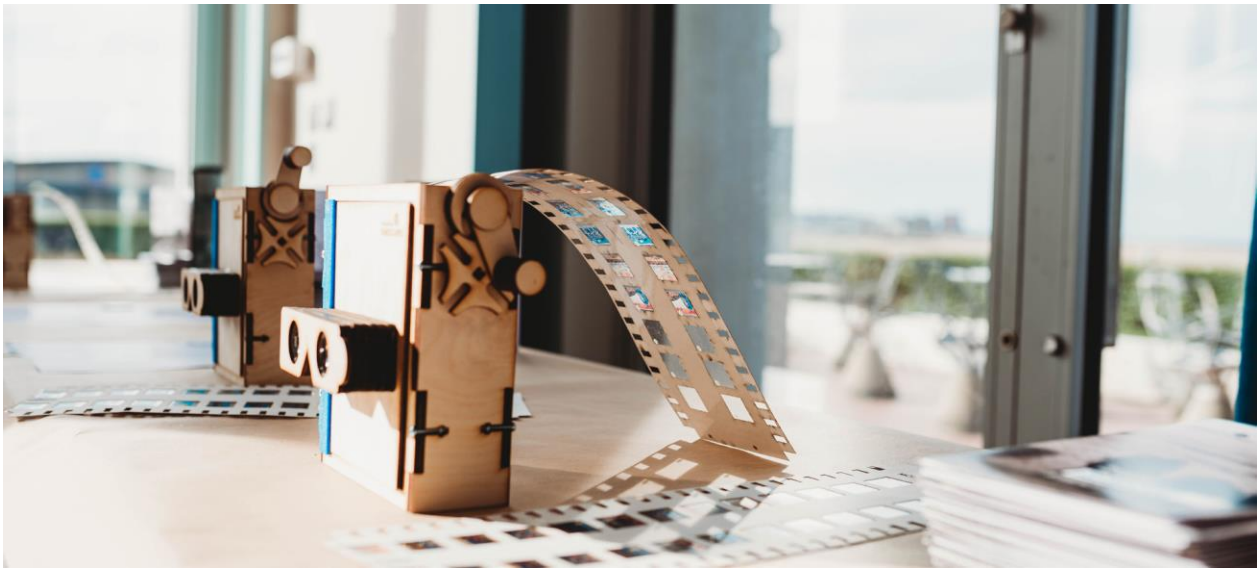


FIGURE 8 STEREOSCOPES WITH REELS OF IMAGES

Drawing Timescapes to investigate and communicate coastal futures

Drawing was used in the project for many purposes; to collate and synthesize multidimensional data, to organize aspects of space and time; to imagine and speculate; to concretize and communicate visions and to provoke discussion.

Depending on the chosen definition, it could be argued that some of the finished artwork produced in the Timescapes could not be strictly defined as 'drawings'. For example, one school created ceramic panels; another school used paper collage with pencil drawing; the third school's imagined futures were created with digital drawings; the college students had art sessions across different media to support the production of mixed media images. However, drawing as a process of "articulation of space by means of mark" (Ashwin, 2016, p 204) is at the core of the way in which students developed their ideas. They did so by bringing together the notes, images, data, textual documents, questions, and experiences collected through the four core sessions in the sketches that informed the final artworks.

Drawing was used in this project as a practice of both generating knowledge and communicating ideas about speculative futures in a more accessible way with students who would otherwise be alienated by the specialist language and formats of representation typically used in climate science. This was particularly evident with some of the students attending the art and design course at the Further Education college who had previously struggled with standardised practices of teaching and learning in secondary school. These students were initially reluctant to engage, with some of commenting on how they had failed geography or science in the past, and were not the "right people for this kind of things". Some hadn't studied geography or science, the subject through which climate change is typically addressed, since age 13. Climate change affects everyone, but the educational structures can limit who is included in these conversations. Crandon (2022) identified open discussion as one of the key factors in mitigating climate anxiety in schools, but this raises the question of how to facilitate these discussions beyond science and geography. The fieldwork sessions, organised as walks on the beach were an initial step for breaking down these barriers and made issues explored by the project relevant and relatable. In discussions about pasts, presents, and futures of the bay members of the research team were able to refer directly to signs and elements of place, while students shared family stories and past experiences. Walking as a group enabled a shared experience of thinking about and getting to know familiar places from different perspectives. Walking along the coast also meant moving through a zone that intersects weather, ground, and water (Ingold, 2010), which brought an embodied and sensorial understanding of climate issues.

After these walks the students produced initial drawings which captured individual impressions and specific elements of place, including atmospheres, infrastructures, buildings, animals, sands, seaweed (Figure 9). The students also experimented with different scales, combinations, and interpretations in these initial drawings, which, in most cases, acted as a starting point from which to develop their visions of the future. Students interrogated and contextualised what they learnt from the "Futures" sessions by overlaying effects of coastal change onto their representations – sketching design interventions, reconfiguring relations, or introducing new elements to the existing landscape. As a process of generating knowledge, drawing allowed students to test ideas and scenarios, bringing tangible yet speculative located answers to the "what if" questions that climate models posed.

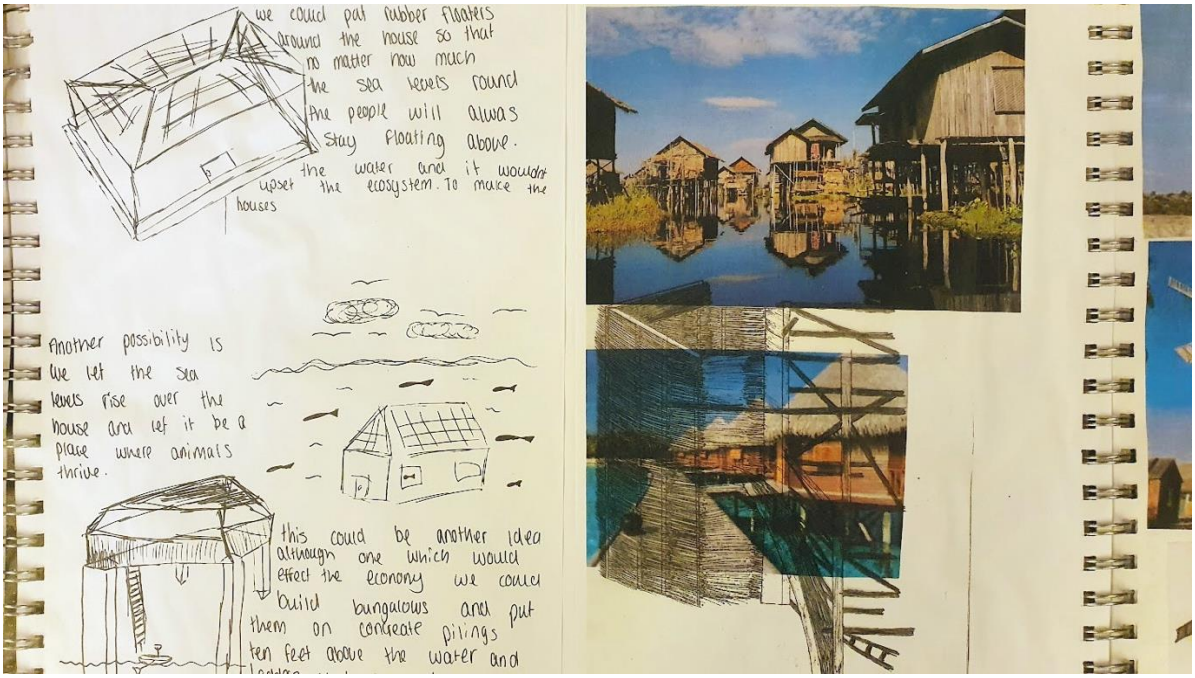


FIGURE 9 PREPARATORY SKETCHES IN A STUDENT'S NOTEBOOK

In considering the "what if", drawing provided the students with a creative way of representing their visualisations for how this climate future may play out in the four coastal areas are Morecambe Bay. Art allowed the students to offer new perspectives on what we perhaps could and should value in future coastal space, imagining abandoned wildness at Sunderland Point, modernised housing at Heysham and Carnforth which adapts and draws energy from sea level rise, and even a sense of fun with the development of a new theme park in Morecambe. In doing so, drawing presented a medium for the students to design alternative and difficult futures which coastal managers and planners may be unwilling or unable to discuss, including questions such as "why don't we just let it flood?" Coastal managers are burdened and constrained by the bureaucratic entanglements of current ways of "doing" coastal management planning; including SMP scenarios, cost benefit ratios, legislation, legal frameworks and managing authorities; things that the students could enjoy an innocent freedom from.

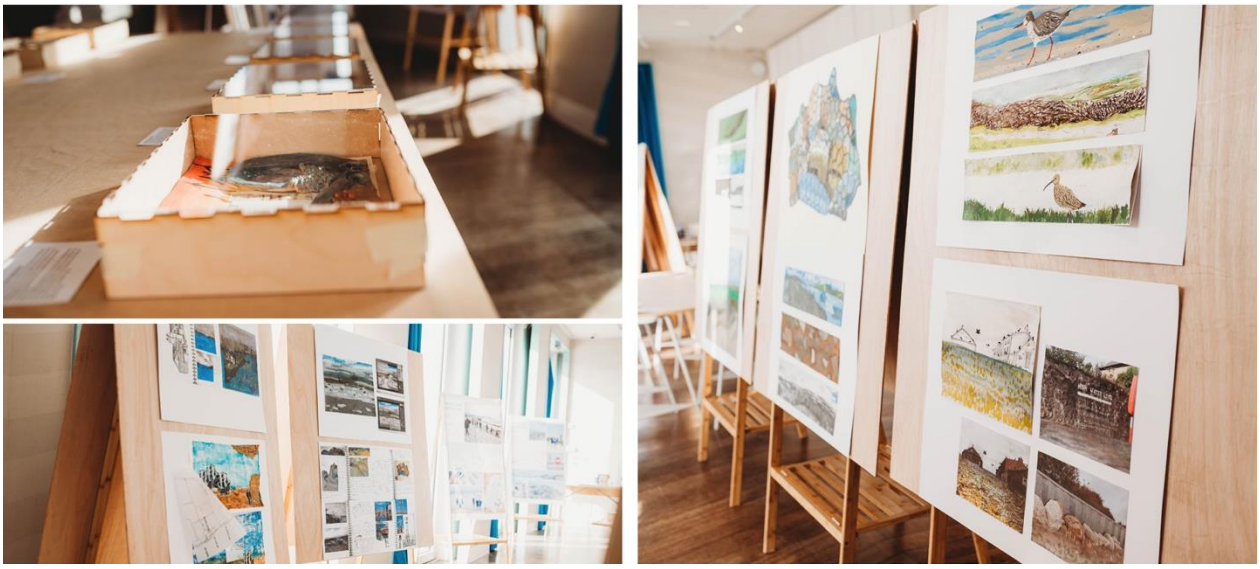


FIGURE 10 SOME OF THE STUDENTS' WORK AS EXIBITED AT THE FINAL EVENT

Drawing what will, might, or could

In addition to the role of drawing in enabling students to engage in conversations about possible futures, the visions produced by young people can also be analysed through a social semiotic approach to appraise their communicative value. The artworks developed as part of the Timescapes of Morecambe Bay project are multimodal artefacts (Kress, 2009), as they combine different modes (drawing, photographs, text, sculptures, patterns) in meaning-making assemblages. With different modes having different "modal affordances", defined as the capabilities of making meaning or expressing ideas (Jewitt, 2011), a key question that was asked in the project pertained to the role of artistic representation in communicating complex issues related to climate change and coastal futures.

Visual representations of possible futures have been widely used to inform strategies and to build shared imaginaries (Dunn and Cureton, 2020). This is largely because drawing allows nuances and experiential qualities to be captured, and ambiguity and uncertainties to be communicated. In a field such as climate science, in which complexity is often presented through the language of diagrams and charts, drawings can be a powerful tool for communicating the full spectrum of epistemic modality that future thinking entails (Kress and Van Leeuwen, 2006). In other words, future scenarios can be drawn in a way that modulates what futures will, might, or could look like. Informed by observations, historical data, future predictions, but also experiences, fears, and aspirations, the Timescapes designed by young people incorporate all of these modalities, often within the same scenario.

The degree of certainty of something to be part of the future was in most cases found to be not absolute but contextual to the individual scenario being considered. This at times sparked interesting conversations within the group. Historical buildings along the coast were preserved (and therefore left unchanged) in some of the visions, and destroyed in others. The students who decided to preserve these structures often did so because they took them to be key landmarks of place, and assumed that because of that they will be preserved in the future. However, other students questioned this certainty, and speculated on alternative possibilities: should nature be let to take over? Should landmarks be relocated? Does it make sense to invest in interventions which are expensive to maintain? As different futures were developed by students, lively debates on the qualities and value of the natural and built

environment emerged within the groups. The drawings ensured that the connection between the place and climate-related change was always present, in the periphery, if not directly represented. Climate change is often presented in global terms, that can feel distant and abstract in both space and time. The drawing techniques used brought it closer and made it tangible, by asking questions about, what might happen to this building? How will happen to the wading birds who live here? What will this view look like in 1o years, 100 year, 1000 years?

A sense of complexity was found in the students' drawing. This was found not only in the art itself, with the different schools and students using different artistic techniques and materials, but in the messages found within it. For example, although the students were all guided by the same data about future coastal climate change, including sea level rise predictions and flood maps, the students had different ideas about how that "data" will play out into the future. Some futures were political, imagining a coastal space of conflict and war, some were ironic, whilst some prioritised sustainability and adaptation to climate change (see some examples in Figure 11). The activities in the project allowed the students to think in different ways and explore different realities, offering more than a single way of imagining a problem as large, abstract, and complex as the impact of climate change at the coast. Through art, students could express values and messages not currently captured by current ways 'doing' coastal management, but could offer a useful addition to it, as capturing a diverse range of voices and visions could provide a more holistic and human perspective for how we adapt and work with climate change at the coast.

FIGURE 11 DETAILS OF SOME OF THE STUDENTS' DRAWING

Seeing through the eyes of a storm surge

Storm surges are considered to be among the most disastrous weather events to hit coastal areas like Morecambe Bay. Formed by a combination of low atmospheric pressure, which increases the water level proportional to the drop in atmospheric pressure, and strong winds driving the water landwards, they can cause wave overtopping of coastal defences and extensive flooding. However, although a storm surge causes these coastal dangers, their damaging impact is instead related to the complex entanglements of the Anthropocene.

These entanglements are eloquently described in the work of Nancy Tuana on the viscous porosity between nature and culture that has been briefly introduced earlier on in this paper. In order to understand the role of the entanglements of the Anthropocene, Tuana invites the reader to look at the flooding and destructions experienced by the city of New Orleans through the eyes of Hurricane Katrina, "a natural phenomenon that is what it is in part because of human social structures and practices" (Tuana, 2008, p 192). In order to understand the destructions brought by extreme weather event, Tuana argues, it is important to also look at the past, and understand how these structures and practices came to be and to generate place as we know it.

Morecambe Bay, seen through the eyes of a storm surge, is also a site of entanglements that are not simply there but that are constantly made, unmade and destabilised through human and non-human interventions. Acknowledging the temporal nature of these entanglement is essential to understand the way in which pasts, presents and futures are made – and how they can be questioned. Using collage, tracing, and speculative drawings, young people brought multiple temporalities to their visions. The future they created are not built on blank canvases but acknowledge the complex evolutionary nature of entangled places.

Drawing coastal futures as a plan for action

Young people in Morecambe Bay will, in their lifetime, experience the impact of climate change hazards such as flooding, sea level rise, storms, and changing eco-systems. Yet, all of the schools who have been involved in the project highlighted a difficulty for young people to understand the local impact of climate change, and the ways in which global patterns of change will meet the viscous porosity of local social, political, and cultural entanglements. As a result, young people are often overwhelmed by the complexity of climate issues, and deeply concerned about their future.

Concern is a rational response to the threats of climate change, especially where "adaptive anxiety" inspires action, but if anxiety becomes overwhelming, it can be paralyzing. Hence Crandon proposes that in education setting climate change should be "framed on action", with "open discussion", creating "opportunities to engage with action" (2022, p 126). The drawings were envisaged as a tool for action; a way for the young people to enter discussions with experts about Morecambe of the future and all that entails with respect to the climate crisis. The drawings are a place where experts and young people can meet and discuss openly fear, challenges and opportunities. They are a conduit for sharing stories and experiences. They are a jumping off point for future action and conversations.

In Morecambe Bay Timescapes drawing was used as a practice that enabled students to work creatively with heterogeneous data (from fieldwork observation, memories, historical archives, and coastal monitoring) and effectively engage with their entanglements to speculate on possible futures. Doing so through drawing enabled them to embrace uncertainties and pluralism, by testing out possible and unlikely solutions alongside probable trends. The beauty of the visions, especially when viewed one after the other as alternative realities through the stereoscope, is that they question and expand the range of possibilities for the future, as well as their acceptability.

The value of exploring uncertainty and pluralism through drawing is not limited to the issue facing Morecambe Bay in the future. In an article published in *Nature*, Stirling, commenting on the importance of embracing uncertainty in science communication remarks: "In my experience, it is the single definitive

representations of science that are most vulnerable to political manipulation. Plural, conditional approaches are not immune, but they can help make political pressures more visible" (2010, p 1031).

At the time of writing, Morecambe Bay Timescapes is being documented and reworked into a set of pedagogical resources which will be made available to other educators and communities interested in exploring climate futures through art and stereoscopic visualisations.

Acknowledgements

The authors would like to express their gratitude to the teachers and students at Morecambe Bay Academy, Bay Leadership Academy, Lancaster and Morecambe College, and Carnforth High School for their active participation in the project. The authors would also like to acknowledge UKRI and AHRC for their support through the "Engaging young people with climate research" programme (Grant Reference AH/W00481X/1), as well as ImaginationLancaster for their in-kind contributions.

References

Anderson, G. (2017) *Drawing as a Way of Knowing in Art and Science*. Bristol: Intellect.

Ashwin, C. (2016) 'What is a drawing?', *Drawing: Research, Theory, Practice*, 1(2), pp. 197–209. Available at: https://doi.org/10.1386/drtp.1.2.197_1.

Bell, W. (2002) 'What do we mean by future studies?', in R.A. Slaughter (ed.) *New Thinking for a New Millennium: The Knowledge Base of Futures Studies*. Routledge.

Bradbury, A. *et al.* (2002) 'Development of a strategic coastal monitoring programme for southeast England', in *Solving Coastal Conundrums*. Thomas Telford Publishing. Available at: https://doi.org/10.1680/scc.42377.0022.

Brown, K., Naylor, L.A. and Quinn, T. (2017) 'Making Space for Proactive Adaptation of Rapidly Changing Coasts: A Windows of Opportunity Approach', *Sustainability*, 9(8), p. 1408. Available at: https://doi.org/10.3390/su9081408.

Buser, M. (2020) 'Coastal Adaptation Planning in Fairbourne, Wales: lessons for Climate Change Adaptation', *Planning Practice & Research*, 35(2), pp. 127–147. Available at: https://doi.org/10.1080/02697459.2019.1696145.

Casey, S. (2020) *Drawing Investigations: Graphic Relationships with Science, Culture and Environment*. London: Bloomsbury Visual Arts (Drawing In).

Cook, P. (2012) 'Real is Only Halfway There'. *Is Drawing Dead?*, Yale, 20 March. Available at: https://www.youtube.com/watch?v=Jpw3Lm8ZKOY&feature=youtube_gdata_player (Accessed: 14 January 2015).

Crandon, T. *et al.* (2022) 'Weathering the Storm: Climate Anxiety in Childhood and Adolescencce', in *Australian and New Zealand Journal of Psychiatry*. London, UK: SAGE Publications Ltd, pp. 76–76.

Day, J., Gunn, J. and Burger, J. (2021) 'Diminishing Opportunities for Sustainability of Coastal Cities in the Anthropocene: A Review', *Biology Faculty Publications* [Preprint]. Available at: https://doi.org/10.3389/fenvs.2021.663275.

Goldschmidt, G. (1991) 'The dialectics of sketching', *Creativity Research Journal*, 4(2), pp. 123–143. Available at: https://doi.org/10.1080/10400419109534381.

Harley, C.D.G. *et al.* (2006) 'The impacts of climate change in coastal marine systems', *Ecology Letters*, 9(2), pp.

228–241. Available at: https://doi.org/10.1111/j.1461-0248.2005.00871.x.

Hayhow, D. *et al.* (2019) 'State of nature 2019'.

Herbert, D.M. (1988) 'Study Drawings in Architectural Design: Their Properties as a Graphic Medium', *Journal of Architectural Education*, 41(2), pp. 26–38. Available at: https://doi.org/10.1080/10464883.1988.10758473.

Ingold, T. (2010) 'Footprints through the weather-world: walking, breathing, knowing', *The Journal of the Royal Anthropological Institute*, 16, pp. S121–S139.

IPCC (2021) *Climate Change 2022: Impacts, Adaptation and Vulnerability*. 6. Available at: https://www.ipcc.ch/report/ar6/wg2/.

Jewitt, C. (ed.) (2011) *The Routledge Handbook of Multimodal Analysis*. Reprint edition. London; New York: Routledge.

Kress, G. (2009) *Multimodality: A Social Semiotic Approach to Contemporary Communication: Exploring Contemporary Methods of Communication*. New Ed edition. London ; New York: Routledge.

Lim, C.J. (2013) 'London Short Stories: Drawing Narratives', in Spiller, N., *Drawing Architecture*. Somerset, UNITED KINGDOM: John Wiley & Sons, Incorporated, pp. 102–108. Available at: http://ebookcentral.proquest.com/lib/lancaster/detail.action?docID=1489928 (Accessed: 29 March 2023).

Pollastri, S. *et al.* (2018) 'Envisioning urban futures as conversations to inform design and research', *Proceedings of the Institution of Civil Engineers - Urban Design and Planning*, 171(4), pp. 146–156. Available at: https://doi.org/10.1680/jurdp.18.00006.

Pringle (Née Phillips), A.W. (1995) 'Erosion of a cyclic saltmarsh in Morecambe Bay, North-West England', *Earth Surface Processes and Landforms*, 20(5), pp. 387–405. Available at: https://doi.org/10.1002/esp.3290200502.

Stibbon, E. (2014) 'Drawing the Polar Regions'.

Stirling, A. (2010) 'Keep it complex', *Nature*, 468(7327), pp. 1029–1031. Available at: https://doi.org/10.1038/4681029a.

Taylor, A. *et al.* (2023) 'Of Ice and Water: Drawing in Precarious Environments', in Casey, S. et al., *Emergency*. Trowbridge: Drawing Projects UK. Available at: https://eprints.lancs.ac.uk/id/eprint/186161/ (Accessed: 29 March 2023).

Tsing, A.L. *et al.* (eds) (2020) *Feral atlas: the more-than-human anthropocene.* Palo Alto: Stanford University Press, Digital Projects Section.

Tuana, N. (2008) 'VISCOUS POROSITY: WITNESSING KATRINA', in S. Alaimo and S. Hekman (eds) *Material Feminisms*. Indiana University Press, pp. 188–213. Available at: https://www.jstor.org/stable/j.ctt16gzgqh.10 (Accessed: 16 June 2022).

Urry, J. (2016) *What is the Future?* Cambridge, UK ; Malden, MA: Polity Press.

TRACEY

Journal

ISSN: 1742-3570

Drawing Anthropocene 2024

Volume 17
Issue 1

FROZEN FUTURES: USING GLACIAL ARCHAEOLOGY TO THINK THROUGH VALUES OF PRESERVATION IN DRAWING IN THE CONTEXT OF CLIMATE CHANGE

Sarah Casey

Lancaster University, UK
sarah.casey@lancaster.ac.uk

This article uses the context of glacial archaeology as a provocation to drawing. It repurposes Julie Cruikshank's question 'Are glaciers good to think with?' (Cruikshank, 2012) to ask: is glacial archaeology good to think about drawing? It asks what the material intelligence of drawing might offer for articulating precarious balance of absence and presence engendered by the global climate emergency? Conversely, how might thinking through this lens enrich understanding of values of preservation in drawing in the context of the Anthropocene? These questions are approached through a case study of *Emergency* a drawing research project developed around archaeology studied at Sion History Museum, Switzerland. The research responds to calls to engage methodologies of the arts (Carey et al. 2016) 'to encompass the moral, spiritual, aesthetic and affective' dimensions of climate change (Castree et al. 2014). The article begins with the rationale for the research drawing, followed by a summary of the Emergency project, ending with reflection upon the outcomes and wider implications and opportunities for drawing research.

Introduction

This article explores the contingency within the materiality of drawing as a tool for thinking through complex and nuanced issues of climate crisis. More specifically it uses the context of glacial archaeology as a lens through which to probe ideas about drawing in relation to preservation and what it means to leave a mark. The article asks: How can drawing, with its values of contingency, materiality, trace, offer means of exploring nuances of climate emergency? If drawing is another kind of language, then what can this language say that others can't? Conversely, what can thinking through the context of glacial archaeology bring to understanding drawing?

The argument builds on thinking from the environmental humanities and practice-based research through a case study of the *Emergency* research project using drawing with glacial archaeology in the European Alps. The archaeology acts as a focal point for distilling ideas about drawing, stretching and testing them through application in the studio and fieldwork. Observations arising from this practical work are then used to unsettle established tenets about the drawn mark.

The argument is structured in three sections. Firstly, it establishes the premises for the linking drawing with glacial archaeology, outlining the context, the need for this study and the potential that drawing has to contribute to interdisciplinary debates. This is followed by a report on the Emergency project. The article concludes with reflection on the implications for drawing, future directions and broader applications and opportunities for drawing as research tool.

Thinking through glaciers: research rationale

The motivation to bring drawing into dialogue with the phenomenon of glacial archaeology is to use a convergence of two disciplines as a catalyst for thinking through precarity. Drawing, with its values of preservation, trace and marking have much to contribute to interdisciplinary thinking on threatened environments. Drawing as a means of making is conceptually aligned with the fragile, the tentative, the contingent and unseen. Technically it is also associated with provisionality and erasure. When made on paper, drawings are materially lightweight and environmentally sensitive to light, heat, moisture. These conceptual technical and material values embody many of the same concerns associated with the challenges of glacial archaeology – the precarity, dangers of heat and light, revelation through erasure and loss. The provocation of glacial archaeology to drawing is its potential to act as a lens to unsettle and question these established disciplinary values in the context of a world that is changing so rapidly in the timeframe of lived experience. Crucially, in the contemporary context of reappraising established ideas around conservation and sustainability (Alaimo, 2015, pp. 169-70), it feels pressing and timely to question these tenets in drawing to and revisit its established values of preservation.

It has been 20 years since Julie Cruikshank asked 'Are glaciers good to think with?' (Cruikshank, 2012). This question framed Cruickshank's anthropological work in the Canadian northwest through which she convincingly demonstrated how different communities gain environmental knowledge, exposing gulfs in belief systems, hierarchies of knowledge and overlooked wisdom. Cruikshank's influential research opened up channels of thinking outside established empirical models and demonstrated the potential for knowledge gained outside of scientific method to contribute to an enhanced understanding of the natural world (Cruikshank 2005).

I contend that a similar opportunity might be created for drawing by repurposing Cruikshank's question: is glacial archaeology good to think about drawing? In what follows, I will argue that it is. I reflect on what opportunities it presents for drawing research and conversely how drawing has the potential to contribute to interdisciplinary scholarship around themes of environmental catastrophe. In doing so, it is a timely return to Steve Garner's call for drawing research to look beyond disciplinary borders and forge connections with other areas of lived experience (Garner, 2008, p 13). While drawing research has matured significantly since Garner made this call to arms, his argument is increasingly pertinent if drawing research is to look beyond the studio window and play its role in addressing complex global issues.

What is glacial archaeology and what does it offer to drawing?

Glacial archaeology is a field that has recently developed to study artefacts emerging from frozen landscapes as the ice in which they are preserved melts (Curdy & Nicod, 2020; Pilø et.al., 2021). While these glacial finds provide important archaeological knowledge about the past, this knowledge comes at the cost of environmental change as the glaciers in which they have been encased are now melting at unprecedented rates. This archaeology is exceptionally rare and valuable. For instance, Mesolithic finds, are usually limited to stone artefacts; in glaciated and permafrost environments, fugitive materials such as leather, textile and organic matter from this period are also preserved (Cornelissen, 2022). However, once exposed to air, they rapidly deteriorate, meaning there is a very limited period in which they can be found and preserved (Gubler, 2019). Furthermore, unlike terrestrial archaeology, which typically follows an orderly time-based stratigraphy, ice is disorderly and unpredictable. Depending on their movement, glaciers – or more accurately ice patches– can throw up artefacts from 50, 500 or even 5000 years making it harder to date and identify finds. Archaeologist Regula Gubler summarises the challenges:

> *The melting of glaciers and ice patches in the Alps in recent decades is both a blessing and a curse for archaeology. The release of the archaeological artefacts from their frozen contexts repeatedly opens a window into the past. However, these windows are only open for a short time. Once the fragile objects are exposed to the elements, wooden and leather objects decompose quickly. Moreover, many ice patches will probably disappear completely in the next few years or decades.* (Gubler 2019).

This situation troubles straightforward equation of ice melt with loss and requires a more nuanced non-binary thinking about loss and change, and the relationship between human non-human agencies, nature and culture.

This context presents a compelling conceptual framework that inverts our attention, focusing not what is lost (the ice) but what appears, offering potential to add nuance to simplified narratives of ecological change. Like a drawing of negative space, thinking about glacial archaeology requires us to view the world backwards for a moment, to upend our thinking about catastrophe, a word which itself means 'to be turned over'. It reminds us, as Rebecca Solnit observes, that 'inside the word 'emergency' is 'emerge'; from an emergency, new things come forth' (Solnit, 2016, p 13). So what is considered here is how drawing, with its processes of erasure, negative space, negotiation of absent and present, might be well adapted for examining and communicating this precarious balance of the lost and found.

But before looking in detail at drawing, it is important to look at the context of glacial melt to establish why using drawing in this way might be necessary.

The slippery meanings of ice: why is this research needed?

The trouble with climate change, is that it can't be seen. It is not an object that can be grasped or held up and examined (Morton, 2018:22). As Andri Snaer Magnusson eloquently frames it, climate change is like a black hole, known but not seen (Magnusson, 2020, p 7). We need to find ways to look around it.

These writers and others make clear the urgent need to find ways to visualize, make tangible climate crisis and its longer term trace as the 'Anthropocene'. For instance, while most people equate glacial ablation with climate shift, the effects of melt are not necessarily felt or witnessed at first hand, nor are they easily reconciled with our everyday life. Glaciated environments are too often characterised as remote and 'other' and depicted as such in art and literature.[1]

More broadly, the iconography of melting glaciers is used as generic symbol for 'climate change'. Scholarship has highlighted that this use often misses many of the nuanced and culturally specific impacts of melt; warming environments are bringing about socio-cultural changes to language, modes of transport, livelihoods (Jackson, 2019, p 9; Carey et. al. 2016).

Furthermore, too commonly we equate glacier and ice. And while frozen water makes up a large part of glacial mass, there are also minerals, rocks, debris swept up in their mass. A glacier might be better conceived as an entanglement; a grouping of relations between entities acting on each other, rock , sediment, water, weather, organics , animal and human debris; a 'constellation of life' (Burbandt, 2017, p 137). Glacial archaeology presents us with visible entanglement of human presence within the geological sphere and reminds us that icebound mountain areas were not always remote.

In short, there is need for more effective ways of articulating the complex challenges engendered by global heating in relation to glaciers and this is where drawing enters the scene, as creative research has been identified as having an important role. Mark Carey and his colleagues have written on the need to engage methodologies of the arts to

> *articulate new narratives of human-glacier relationships by approaching ice through feeling and affect, emotional response, sense of place, the personal and the intimate, kinship and family rather than through the attributes and characteristics of the dominant, masculinist scientific glaciology* (Carey et. al. 2016, p 785).

As geographer Noel Castree and co-authors put it:

> *other forms of knowledge, discourse and under-standing [beyond natural sciences] must be properly acknowledged, precisely because they both affect, and are affected by, science and technology. These forms range beyond the cognitive to encompass the moral, spiritual, aesthetic and affective.* (Castree et al. 2014, p 765)

[1] Take for example, the cool, angular mountains in a Lawren Harris's painting or in the words of writer Peter Mattheison: 'Snow mountains , more than sea or sky, serve as a mirror to ones own true being, utterly still, a void, an Emptiness without life…' (Mattheison, 1989:162). Legacies of romanticism and the sublime linger in depictions of ice clad peaks as awe inspiring 'elsewheres' devoid of human presence.

As other authors explore elsewhere, drawing as a process of making involves an embodied and sensory approach, entangling what is seen and what is felt (Crowther, 2017:116; Casey, 2018: 238). Data, matter, emotion can be conflated in the journey from eye to brain to hand and back again. It enmeshes within it cognitive, moral, affective dimensions, and can hold different ideas in dialogue, without resolution.

I argue that this befits drawing as a tool for critical examination of complexities where narratives are not straightforward – what Donna Haraway would call 'staying with the trouble' (Haraway, 2016, p 1). In other words, working within a context that presents seemingly irreconcilable ideas and working through these. In what follows, drawing, in both the making and viewing experience, is a material encounter. I conjecture that this encounter can be a means of staying with something that is difficult and intractable as a space for thinking through phenomena that doesn't easily fall in to binary positions. It is this material encounter between presence and absence that I want to focus on now, turning to the *Emergency* project. While drawing enfolds seemingly contradictory values of both permanence and contingency as theoretical tenets, it is less easy to reconcile them in a material artefact. The *Emergency* project explored how this might be achieved and what opportunities that offers.

The *Emergency* project

The *Emergency* project was initiated in 2019 following two research visits to examine glacial archaeology in the Valais History Museum in Sion, Switzerland. Artefacts from the European alps were gathered for an exhibition Vetiges en Peril curated by Pierre-Yves Nicod at the Museum.[2]

The artifacts in the exhibition included shoes from different eras, tools, combs, knives. A 17th century pistol was also among the artefacts. The objects present a strange homely assortment of oddments, some ancient and rare, others that appeared as if they might be at home on the shelves of a particularly fusty junk shop. In the exhibition, artefacts were laid out displayed in cases. One particularly rare and ancient shoe fragment encased in its own atmospherically controlled display case within a vitrine. Readings were checked on a regular basis to ensure its stability. As noted above, once released from the ice, these objects become endangered.

In addition to these identifiable objects from the more recent past, are strange misshapen wooden forms. Nicod explains that many of these are enigmas. It's not known what they were, only that they were made by human hand. As the curator explained, these artefacts can emerge unexpectedly and are often discovered by non-specialists – hikers, climbers in the mountains for other reasons (Curdy & Nicod 2020, p 497).[3] This sense of unexpected apparition, the material vulnerability once exposed, of being contingent on atmospheric conditions for survival, echo with tenets in drawing (as noted above). The research objective was to build on these qualities in drawing to find methods of drawing that reflected the material and conceptual conditions of the artefacts.

The methodology consisted of intensive collections-based studies, supported by discussion with Nicod, followed by material trials in the studio. Collection research involved slow careful studies of the artefacts attempting to delineate their details and get a sense of their materiality behind their glass cases.

2 Mémoire de Glace Vestiges en Péril , Musée d'histoire, Sion, 6 October 2018- 3 March 2019.

3 The cantons of Valais and Bern have recently targeted public awareness campaigns to alert the public to the possibility of finds and communicate best practice in the event of a find. See Gubler (2019).

Drawing was deployed as a form of material touching, resting the eye on the artefact in lieu of a forbidden hand, imprinting the sensation of encountering these artefacts in the mind, and on the page to be recalled later.[4] Following this initial data gathering, analysis through tests and trials in the studio, was used to identify a way to use materials to embody the conundrums of these artefacts, i.e. the fact that they are revealed through loss, a sense of jumbled layering with other time periods, a vulnerability to loss. The outcome was two groups of works, discussed below.

The *Emergency* drawings

The first body of work is a series drawings each 120 x 150cm. They are made by creating two large, thin sheets of waxed paper by carefully joining smaller sheets together. They are so thin that they are almost transparent, like looking through misted glass. One sheet is laid flat on to a large studio table. Then, using a stick of watersoluble graphite, particles are shaved off onto the surface of the paper, leaving a dusty residue. Occasionally an addition of water, or pressure helps manipulate an image, taking on the form of one of the glacial artefacts. The graphite dusts is built up, creating thicker piles of dust in the areas of the drawing that require most shadow. As it progresses and the image takes shape in vulnerable unfixed 'marks', or 'pre-marks'– the arranged pigment that will become marks.

The next stage involves trapping this layered dust between the two paper skins. The second sheet is laid carefully over the first, using air currents to help it settle into place. The movement of down draft disturbs the particles, they puff outwards slightly, a diffused mark, as if the image, the particulate of its matter, is visibly, eroding seeping into its surroundings.

Finally, heat is applied. The drawings are to be made (and by 'made' I mean become fixed) with heat, as graphite is suspended in place between these two skins. Running a hot iron over the surface fuses the skins together, trapping the image inside, encasing it. The resultant surface takes on a reflective sheen with craquelure reminiscent of ice. The soluble graphite becomes liquid in the molten wax and in places pools, bubbles and becomes dark. Pigment is fused with wax. Together they form the image, under the agency of heat.

Lifted from the table and hung in space, the object appears trapped. The image floats there. A fly in amber. The darkness and tonal values of the drawing suggest an illusory solidity - the objects peer out of the page as if hidden behind it (Figure1). But there is no behind. Only the wafer-thin surface. When several drawings are layered over one another other, the lower layers become hazy, like shadows of something out of reach. As if buried deeper. The drawings enact a fanciful stratigraphy. Imagining the jumble of objects layered in the ice. Bound together in relationships that shift over time. Unlike terrestrial burials, a glacier is not at rest. It is an icy river, pulled by the forces of gravity and erosion.

[4] For more on this method see Andrew Causey (2017), Drawn to See Drawing as an Ethnographic Method, Toronto: University of Toronto Press. p. 56, 140.

FIGURE 1 EMERGENCY DRAWINGS LAYERED AND HANGING IN SPACE

The composition of these layered drawings is also contingent. The sheets can be layered up interchangeably. Different objects coming to the fore, as if jostling for attention at the surface. There is perhaps no one single drawing here. The drawing is the relationship between the parts, the arrangement temporarily composed. This openness can be found in the material make-up of the individual sheets. Fixed by heat, suspended in the page. It is only the melting of the wax that holds the pigment in place to make an image, to make the shift from matter to drawing. But this is an unstable support. Wax, like ice, melts. The drawing remains subject to environmental forces – heat from the sun, domestic heating devices, light. Subjected to heat, wax, like ice, will return to its molten state. The drawings are only temporarily held. When heated, the sheets will become unstuck, the graphite become liquid in the molten wax, allowing it to run and pool, or smear away as the support disintegrates, a graphic and material equivalent of the glacial archaeology.

This sense of vulnerability to damage is accentuated in its gallery display. While the layered hanging suggests a limbo, of being poised between one state and another, on the floor beneath these lies mass of other drawings crumpled up into a three-dimensional topography covering the gallery floor (Figure 2). The form at once evokes mountainous terrain and icy crevasses. The crumpled paper also recalls discarded waste, the screwed-up paper ball tossed away. The crumpling is a counter intuitive step to take in drawing, after spending hours of time and care in its production. The crumpled ball is a visual signifier of the unwanted and discarded, deliberately used in the drawing to gently probe values of finish and care. Does something on the verge of loss become more coveted? Would it matter if the drawing were to be destroyed all together?

FIGURE 2 EMERGENCY DRAWING GALLERY VIEW

This line of thinking led to the second phase of the research in which drawings were made to be exposed to the heat of the alpine sun. By repositioning the drawings as artefacts designed to be melted, they could become experiments to be performed. The premise becomes a hypothesis to be actively tested. Under what conditions will the drawings melt? How hot need the sun be? Could the drawings even measure melt, be a material marker, evidence of the heat of the sun acting upon matter? It was this critical questioning of the work, shaking it out of its comfortable museum and studio-based environment, that prompted a series of experiments that set out to test the premise that the drawings would melt. The second phase was to see what would happen to these drawings when exposed to the heat of the alpine sun close to some of the glaciers from which the objects had been found.

Impermanent markers

To test the premise of this process, to put theory into practice, in early summer 2022 a field trip was arranged to take the drawings to glacial sites. The Val d'Herens, south east of Sion, was selected for its location in the Valais region, near where the archaeology was studied in the museum and close to the sites of some of the finds (Curdy & Nicod, 2020, p 498). The valley has been carved by glaciers, one once reached the village which was my base. (It's now several kilometres away).

Experimental sites were set up each day for three days in a different location, proximate to one of these glaciers. Once in situ the drawings – smaller portable versions– were unpacked, unfurled, laid out, offering their surface to the sun for a period of several hours over the day (Figure 3).

FIGURE 3 EXPOSING DRAWINGS TO THE SUN

The time and location were recorded. The drawings were documented at regular intervals, observing the degree of melt. Two different types of drawing were tested. The trapped graphite ones, as described above (Figures 1, 2 & 3) and ones where the drawing is scored into the waxed surface leaving incised marks (Figures 4 & 5).

Of the first, the graphite drawings became hot, pliable and fluid but total disappearance was not their fate. The wax has become liquid in places, partially dissolving the watersoluble graphite, again, just as it did when the image was first fused together. But now under heat it is free to move and pool. The integrity of the surface is also under threat – the paper sheets held together by the melting and setting of wax begin to come unstuck as the wax returns to a molten state.

FIGURE 4 SCORED WAX DRAWING BEFORE EXPOSURE

FIGURE 5 SCORED WAX DRAWING AFTER EXPOSURE

Of the second type (Figure 4), the wax (laid down thicker than the first type) does not so much bubble but become warmly viscous. As it does so, the pale white lines of the incised marks soften, become less distinct as the increasingly molten wax wicks back into the paper fibres, healing the white scars of incision, returning to the smooth, freshly melted surface. After two hours, the drawing is becoming hard to discern. More visible in some areas than others, where the drawing has shaded itself (Figure 5).

Outcomes

Prior to carrying out this experiment, the drawings acted symbolically – the idea that they would melt if heated evoked in the mind a sense of precarity with an affinity to the glacial artefacts depicted. A gentle poetics of analogy. However, here on this rough moraine these increasingly tattered skins of drawings embodied something else. This vision of destruction was neither dramatic nor poetic. These ugly husks evoke none of the poetry of destruction. The process is not exciting or dramatic, it is slow, subtle and, even, a bit boring. However, what these have become, are the embodied witnesses of destruction itself. The value in these (ex)drawings is in the process of their undoing they have recorded the conditions of the environment. The marks – or the degree of erasure - they bear are the marks of being subjected to a specific temperature, over a recorded amount of time. As such, this process offer drawing as a type of litmus test, a tool to be used in the service of research, capable of generating data about environments in which they are exposed.

Drawn out of melt: Summary of findings and implications for drawing research

To summarise these findings, in both groups of work the drawings embody the conditions of the archaeology. There is a sense of it in the work: the layering; an aesthetic of fragility; a sense of being poised, or in limbo, waiting for something to happen; and forms of the overlooked or discarded. This operates in different ways in the two works. The gallery-based work is slower – it appears to freeze a moment, pictures it and presents it. On the other hand, the landscape experiments are visibly changing over time, actually instantiating the ideas proposed by the gallery work. However, both works, whether changing fast or slow, confront the viewer with an encounter that reflects material and temporal vulnerability.

While the drawings do pictorially depict the objects, they go beyond image replication. They convey a sense of not just what the artefacts look like, but what it feels like to view them, to encounter something on the cusp of disappearance. They offer an 'aesthetic empathy' with the subject (Crowther, 2017, p 28). This experience involves an attraction at the same time as a cautionary pulling away from the danger (of damaging the work). These polar positions mirror the tension between appearance and disappearance, of being present but also pointing towards what is absent. The work ‘says’ all this through materials and visual experience. That the tensions can mutually exist in the same picture plane. It is as Philip Rawson says:

> *under the stimulus of a good drawing, we are able to retake possession of those areas of our own real experience which normally lie unused and forgotten, and so see the forms of realities that nothing else can show us* (Rawson, 1979, p 27).

And herein perhaps lies the value of drawing for other fields of research: its ability to enfold the ‘spiritual affective dimensions’ along with empirical data. To distil information and represent it in a manner that

enables binaries to co-exist. Reflecting on the value of creative writing in approaching challenges of the Anthropocene, David Farrier observes:

> *poetry can compress vast acreages of meaning into a small compass or perform the kind of bold linkages that it would take reams of academic argument to plot; it can widen the aperture of our gaze or deposit us on the brink of transformation* (Farrier, 2019, p 4).

The same can be said for drawing.

Farrier goes on to claim that poetry 'can model an Anthropocentric perspective in which our sense of relationship and proximity (and from this our ethics) is stretched and tested against the Anthropocene's warping effects' (Farrier, 2019, p 4). This sense of relationship and intimacy is important, because that's one of the things I want to claim here for drawing. Displaying the works creates an embodied encounter which has affect upon us, which creates meaning. In doing so it offers a response to the calls outlined above to find new ways of communicating glacial melt (Carey, 2016, p 785; Castree, 2014, pp 765). It is not so much revealing that which has been forgotten, as in the Rawson quote, but a reminder of the proximity of trouble. A direct encounter brought close, made intimate. In the case of these *Emergency* drawings this sense of intimacy is perhaps made more apparent, for what is depicted here is not the grand glaciers of the polar north, or a vast wilderness out of human reach, it is objects of daily life – shoes, combs, umbrella- bringing the trouble closer to home, remining us that 'nature' and our destabilising effects are not 'out there' but a category to which we belong and have responsibility toward. In doing so, such approaches might counter concerns about communications of glacial melt 'If people do not see themselves in the story, then they are not part of the story' (Jackson, 2019, p 14).

The inclusion of these identifiably human artefacts, their visual prominence in the work, also reminds us of human entanglement in what might otherwise been seen as natural processes. They look a slightly awkward intrusion. But the awkwardness is useful. The use of uncomfortable juxtaposition can alert us to realities that may have otherwise slipped below our attention. Such awkward intrusions have the capacity to dimmish illusions of comfortable stability (Bould 2021, p 25) and ask us to look again.

Which brings us back to 'staying' with'. For Haraway 'staying' might be unpleasant – it's a process that doesn't lead to easy resolution. And it is now worth quoting Haraway more fully to appreciate what this might mean:

> *In urgent times, many of us are tempted to address trouble in terms of making an imagined future safe, or stopping something from happening that looms in the future, of clearing away the present and the past in order to make futures for coming generations. Staying with the trouble does not require such as relationship to time called the future. In fact, staying with the trouble requires learning to be truly present, not as a vanishing pivot between awful or Edenic pasts and apocalyptic or salvific futures, but as mortal critters entwined in myriad unfinished configurations of places, times, matters, meanings* (Haraway, 2016:1)

Developing awareness through 'staying with' is not about tidying things up and securing them for the future, it is a reminder to be in the present. Beholding a drawing is an encounter, a way to notice latent troubles, of seeing differently, to become attentive to our changing world through new lenses that might

reveal what Bould terms ‘the anthropocene unconscious’ (Bould, 2021). In the case of the *Emergency* project, drawing has been used as a tool to foster alertness to the changing appearances when we shift our focus from loss to what emerges in its place.

Having established a case for what drawing has to offer interdisciplinary thinking, I now end this article by reflecting on what drawing through the context of glacial archaeology has offered for drawing research, specifically how it offers new perspectives on values of preservation in drawing in the context of the Anthropocene.

To conclude: some reflections on what this means for drawing research

Drawing is well established as a means for preserving fragile ecologies, both in the past and present (Casey & Davies, 2020).[5] Values of preservation are deeply embedded in the practice and values of drawing. Deanna Petherbridge alluding to drawing 'preserving pale ghosts of ideas from slipping away' (Petherbridge, 2010, p 49), Louise Bourgeois talking about her feather thoughts pinned down by drawings (Bernadac & Wye, 1999, p 73). John Ruskin promotes drawing as a tool ‘to preserve something like a true image of beautiful things that pass away, or which you must yourself leave’ (Ruskin, 1997, p 16). Indeed, Ruskin’s use of drawing to notice and record changing environments has seen him acknowledged as an early voice for ecological awareness.

While drawing is a mode of capture of the ephemeral, it goes beyond this. Paul Crowther notes that while a photograph represents an ‘arrested moment of something’s visual existence’, drawings ‘embody the moment by being physically made’ (Crowther, 2017, p 116; Casey and Davies 2020, p203). In that sense it is placed in an almost unique position. Drawing is a reflexive practice, the tool of recording and the record itself, the witness and the witnessed. Moreover, the record, once made, preserves the observed and the observer’s encounter – the records of its own making. It reveals not just what was seen, but how it felt to encounter it. Within this then is enfolded a performative dimension, the making of the drawing as a measurement of a moment of witnessing, enabling a viewer to get insight into that experience.

What the *Emergency* drawings propose, is that if the above argument is true of marking, then so too might a viewer read un-marking or erasure in a drawing and witness the disappearance of marks. While in the gallery the *Emergency* drawings allude to this threat, the drawings exposed to the sun take this literally. These melted drawings then bear witness to the forces that led to their undoing. The drawings record the trace of their passage in the residue that becomes the ‘ex-drawing’. In doing so, the act of ‘anti-preservation’, the undoing of these carefully wrought images (which have taken considerable time and care to make), transforms loss to revelation. While the drawing is lost, the scars of its disappearance, might have value as records of a specific and particular environmental encounter. The ‘catastrophe’ (of the destroyed drawing) turns out not to be catastrophic; true to its etymology it is more a turning over of expectations, drawing into question the value of the art object, the extent to which it should be protected, highlighting questions about why we preserve things and what we deem to be precious.

[5] E.g. Margaret Mee in the Amazon or Adela Breton’s studies of archaeology of Chichen Itza, Laura Oldfield-Ford capturing urban decay, Emma Stibbon’s work in the polar regions.

The *Emergency* project opens an opportunity to reflect on the permanence of the drawn mark more broadly. Looked at through geological time, or even through a timescale beyond the window of our short lives, most marks and drawings are transitory and ephemeral. They will not leave their mark in the stratigraphic records. More likely left are the emissions created by the daily commute to studio. Seen like this, all marks are in the process of disappearing. Viewed like this, the drawn mark is a less permanent record. It can be a witness to change. Preservation is a time-limited feature, a comfortable conceit. 'Mark' now sounds too indelible a word, the more febrile sounding 'trace' seems perhaps more fitted to purpose. Consequently, it seems timely to reconceptualize and expand drawing's values of preservation, framing this less as capture, more of 'staying with': a process of being co-present with shifting forces and entities in the world. In the context of ecological changes this strikes me as even more important – a useful means of sensing and living with change.

So, yes, glacial archaeology has provided a good lens to think about drawing. It has led to the proposition that the drawn mark is never permanent as such but a stating of presence in time and space. One that moves along in time and space, marking its passage as it goes. What the *Emergency* drawings seek to draw attention to is this state of contingency, to open it up as a space for thinking, for dwelling with that which might be difficult or unknown. What these drawings call attention to in their material qualities is the capacity for the drawn mark to be both fixed and contingent. By contingent, I mean it has a particular mobility, travelling towards either presence or absence. The making of melting drawings highlights a capacity latent in drawing to make visible and corporeal this sense of flux and think differently about those instances of loss that may in fact be simply change. Approaching drawing from this perspective, offers the drawing researcher useful tools and terminology for working with challenges of change both in human and deeper timescales.

References

Alaimo, S., (2016).Exposed: Environmental Politics and Pleasures in Posthuman Times, Minneapolis, University of Minnesota Press.

Bernadac, M.L., Wye, D. (1999), Louise Bourgeois Pensées Plumes, Paris: Centre Pompidiou.

Bould, M. (2021).The Anthropocene Unconscious: Climate Catastrophe Culture, London: Verso Books.

Burbandt, Nils (2017). 'Haunted Geologies: Spirits, stones, and the necropolitics of the anthropocene' in Tsing, A., Swanson, H., Gan, E. and Burbandt, N. (eds.) Arts of Living on a Damaged Planet, Minneapolis: University of Minnesota Press, 121-141.

Carey, M., Jackson, M., Antonello, A. and Rushing, J. (2016) 'Glaciers, gender, and science: A feminist glaciology framework for global environmental change research' in Progress in Human Geography 40. 770-793.

Casey, S. (2018). What do drawing and painting really mean? The phenomenology of image and gesture, Journal of Visual Art Practice, 17:2-3, 238-240. DOI: 10.1080/14702029.2017.1366693

Casey, S. and Davies, G. (2020) Drawing Investigations in Science Culture and Environment, London: Bloomsbury.

Castree, N, Adams WM, Barry J, Brockington D, Bu¨scherB, Corbera E, Demeritt D, Duffy R, Felt U, Neves K,Newell P, Pellizzoni L, Rigby K, Robbins P, Robin L, Rose, DB., Ross, A., Schlosberg D., Sorlin S., West, P., Whitehead, M., and Wynne B (2014) 'Changing the intellectual climate' in Nature Climate Change 4. 763–768.

Causey, A. (2017) Drawn to See Drawing as an Ethnographic Method, Toronto: University of Toronto Press.

Cornelissen, M. (2019) '"Bergeis". Rock crystal from the Alps in the Mesolithic' on Institute for the Culture of the

Alps. Available online at: https://www.kulturen-der-alpen.ch/en/bitte-in-englisch-uebersetzen-bergeis. [Accessed 01/07/22].

Crowther, P. (2017) What do Drawing and Painting Really Mean?: A Phenomenology of Image and Gesture, London: Routledge.

Cruikshank, J. (2005). Do Glaciers Listen: Local Knowledge, Colonial Encounters and Social Imagination, Seattle: UBC Press.

Cruikshank, J. (2012). 'Are Glaciers Good to Think With? Recognising Indigenous Environmental Knowledge', Anthropological Forum 22: 3, 239–250.

Curdy, P. and Nicod, P-Y.,(2020) 'An Enigmatic Iron Age Wooden Artefact Discovered on the Col Collon (3068m a.s. l., evolène, ct. Valais/ch)' , Archäologisches Korrespondenzblatt Jahrgang 50:4 , Mainz: Römisch-Germanischen Zentralmuseums pp.497-512.

Farrier, D. (2019). Anthropocene Poetics, Minneapolis: University of Minnesota Press.

Garner, S. (2008). Introduction. Writing on Drawing: Essays on Drawing Practice and Research, Bristol: Intellect Books.

Gubler, R. (2019). Archaeology of the Schnidejoch Translated by Andrew Lawrence. Bern: Service archéologique du canton de Berne.

Haraway, D. (2016). Staying with the Trouble, Durham & London: Duke University Press.

Jackson, M. (2019). The Secret Lives of Glaciers, Brattleboro, Vermont: Green Writers Press.

Magnusson, A. (2020). On Time and Water, London: Profile Books.

Mattheison, P. (1989). The Snow Leopard, London: Harvil.

Morton, T. (2018) Thinking Ecologically, London: Pelican.

Patrizio, A. (2019). The Ecological Eye: Assembling an Ecocritical Art History, Manchester: Manchester University Press.

Perec, G. (1999) Species of Space and Other Pieces ed. John Sturrock, London: Penguin.

Petherbridge, D. (2013) The Primacy of Drawing Histories and Theories of Practice, Newhaven & London: Yale University Press.

Pilø,L., Finstad, E., Wammer, EU., Post-Melbye, JR., Rømer, AH, Andersen ØR, & Barrett, JH. (2022). 'On a Mountain High: Finding and Documenting Glacial Archaeological Sites During the Anthropocene', Journal of Field Archaeology 47:3. 149-163.

Rawson, P. (1979) Seeing Through Drawing, London: BBC

Ruskin, J. (1997) The Elements of Drawing, New York: Watson-Guptill Publications.

Solnit, R. (2016) Hope in The Dark, London: Cannongate The Cannons.

TRACEY

Journal

ISSN: 1742-3570

Drawing Anthropocene 2024

Volume 17
Issue 1

CHTHULUCENE HEKATERIS

Dr Charlotte Gould

University of Brighton
c.gould@brighton.ac.uk

Responding to extremes of nature, droughts, forest fires and floods, “Chthulucene Hekateris” (Gould C. 2022) uses an expanded approach to drawing, to envision future hybrid humans, through evolutionary change, resulting from environmental impacts on the Earth in the distant future. The continued striving for technological “advance” has led to mutations in DNA to facilitate living on a damaged planet. Here I look beyond the Anthropocene to the Chthulucene, a term introduced by Donna Haraway to depict a third epoch where species live and die together responsibly, through perilous ecological times. I will delve into the past to speculate on the future, presenting examples of artists and designers who have used expanded drawing approaches, materially and digitally to make sense of the world so that we can see ourselves more clearly, to speculate in order to foresee a new future. Through my practice-based research I create a space where hybrid creatures meet with the audience so that we can imagine future inhabitants of the Earth and join the “Chthulucene Hekateris” (Gould C. 2022) as a manifestation of a future reality. Drawing is used to imagine a world using dance as a way of bringing the two worlds together to create a performative environment with mixed media, drawing and video installation. This artwork uses dance as a motif to imagine the future beings that will inhabit the Earth, posing questions to prompt action, inviting the audience to be part of the change.

Drawing Practice

Through drawing we can speculate on a possible future to prompt action for new ways of living on the planet including new approaches to use of energy, travel, food production and consumption so that we can exist in harmony with nature and other life forms for a sustainable future. The accessibility that drawing offers makes this an ideal medium to promote action. Through this paper I present my practice based research developed through drawing in traditional and digital media to imagine a world in the distant future where humans evolve in tandem with other beings. As inspiration I look at artists and designers who use drawing to speculate on life on Earth, to reflect through the deep lens of time, in order to imagine a future. This approach is supported by Rainer Maria Rilke's prophecy in his letter to a young poet that "…the future enters into us long before it happens" (Rilke R.M. 1904).

"Chthulucene Hekateris" (Gould C. 2022) is a drawing, mixed media, and video installation, an immersive space where the audience can engage with avatars to travel in time to a distant future inhabited by part human, part hybrid creatures. The characters are developed through drawing referencing living creatures, juxtaposed against the imagined, as a dialogue with reality. Through these speculative imaginings, I explore new fusions and mutations which may emerge through evolution using the lens of time, to speculate on our future metamorphosis. I imagine the potential development of humans who exchange characteristics and genetic code with other life forms. I explore the traumas, triggers, composites, and catalysts to change and the environment that manifests transformation. I work with drawing in a variety of different ways from documentation to exploration of ideas and abstraction in the form of motion paths, as diagrams of movement in space and time. I enjoy the immediacy of drawing as well as the flexibility of the line and the opportunity for precision. This is supported by Jean Fisher who emphasises the immediacy of drawing to capture thought (Fisher J. 2003:222) and Anna Lovatt who highlights the versatility of drawing:

> *"Similarly drawings ability to pivot between particularity and abstraction from the most introspective gesture to the diagramming of immeasurable forces makes it responsive to the volatile temporalities of contemporary life."* (Lovatt A. 2021: 0.16)

Through my practice I engage in drawing in multiple ways from capturing an idea to meticulously building up a character in three dimensions both texturally and spatially. In this way I connect the physical act of drawing and translate this into a digital line. This fuses the immediacy of the mark made in charcoal or graphite to the considered and digitally manipulated mark in vectors and pixels on screen, breaking the inherent perfection of the digital code. Drawing is layered from original conception of the character, drawn from life, to the design of the character drawn on paper and digitised, which informs the building of the avatar, drawn in 3D vector shapes. The skin and textures including the feathers are also drawn in two and three dimensions. The character is then animated to follow spatial lines of movement informed by a video of a dancer captured on screen. Motion paths are created through time and space animating the avatar to follow the lines of the body mapped using the video. In this way the body as line is replicated through the avatar movement. Sections of these movements are then repeated as code. Through my practice I explore the digital other, capturing physical body movements as a mirror, mapping the movement through digital drawing on the screen. The movement in time and space creates motion paths which can be traced, realigned and reanimated so that the character echoes the movements of the human body to perform a dance motif, which is repeated as code (See figure 1). The avatar body and movement become a line, moving through space across the surface of the screen.

FIGURE 1. "CHTHULUCENE HEKATERIS" AVATAR I GOULD C. 2022 TO CURRENT HD VIDEO INSTALLATION

In “Performance Drawing” (Foa M. Grisewood J. Hosea B. 2020) Bonnie Marranca poses the question, “When is a person a line, when is a body a pencil, when is a line a thought?” Marranca proposes that drawing is a process which may be an experiment, action or a performance (Marranca B. 2020: x). In the same way the avatars that I construct as three-dimensional drawings are durational and physical. The form and the movement are drawn in time. Anna Furse identifies the body in performance as,

> *“…becoming a total instrument: or the bodily intervention might be alluded to in traces made visible, imprinted residues left behind as evidence of previous action.”* (Furse A. 2020: Viii)

Through video, the movement of the physical body is replicated by the avatar's movement as a trace left behind, as a three dimensional drawing to record the action, to capture movement, merging the physical and digital as code to create a line, in movement and flow. The corporeal body is mapped in time to the digital body to create line in motion so that the body becomes the line, embodied as the avatar in pixels as choreographed movement across the screen.

Dance has been used in ritual and in story telling since ancient times to bring people together, to celebrate, to motivate and prepare for a shared cause. “Chthulucene Hekateris” references a mythic dance, the Hekateris the dance of many hands, with an associated demigod of the same name. He fathered ten children, the five dactyls (brothers) and five Hecaterides (sisters) represented in the ten fingers of the hands. These spirits and their offspring were associated with nymphs of the forest and of nature. This artwork enables us to explore the characters and at the same time to contemplate ourselves and our future metamorphosis. Through movement, the audience can come together with the character in dance. We can speculate on how future beings might evolve to thrive on a damaged planet, no longer exploiting the Earth’s resources for individual personal gain but instead working to contribute to reciprocity and collaboration. Through dance we can celebrate our shared presence (See figure 2).

FIGURE 2: "CHTHULUCENE HEKATERIS" AVATAR II GOULD C. 2022 TO CURRENT HD VIDEO INSTALLATION

The Anthropocene

The “Chthulucene”, was coined by Donna Haraway as an era to follow the Anthropocene, a term first used by Paul Crutzen where human activities have impacted on the geology of the Earth. This denotes the next phase, where the ecology of the Earth remains fragile but where species work together through the intricate interwoven nature of life, death and mutual dependencies. Humans are not the primary species but rely on an interchange with life on Earth and this has long been acknowledged by indigenous peoples (Haraway, D. 2017). Darwin’s “On the Origin of the Species” (Darwin, C. 1859) signalled a cooperation between species but also heralded the concept of the survival of the fittest. This was reaffirmed by Richard Dawkin’s “Selfish Gene” (Dawkin R. 1976) which promoted competition over collaboration as fundamental to evolution. Others have accentuated the importance of reciprocity of life on Earth and in 1806 Eugene Patrine defined the Earth as a living being which is interconnected (in Bonneuil C. Fressoz J.B. 2016: 183). Half a century later, in 1867 Ernst Haeckel coined the term 'ecology'. He proposed that living beings made up a home or “oikos” which was both conflictual and benefited from symbiosis and mutual aid (in Bonneuil C. Fressoz J.B. 2016: 185). Later that century, Lavoisier noted that exchanges between human society and culture resulted in a "marvellous circulation" between three realms of matter: vegetable, animal and mineral. In their book “Gaia”, James Lovelock and Lynn Margulis proposed that the Earth was a self-regulating biosystem (Lovelock J. Margulis 1979, this 2000). Isabel Stengers identifies "Gaia" as an important work because it drew scientific disciplines together as an "assemblage of relations" including living beings, terrain and climate previously treated as separate. Gaia was presented as a self healing"nurturing mother" which could offset limitless levels of carbon emissions and poisonous gasses (Stengers I. 2015: 44-45). This potentially undermined awareness of the impending dangers of global warming although this position was revised in later editions of the book. Contention over global warming continues but Bonneuil and Fressoz show that the continued “progress” of

industrialisation happened despite warnings of the damage being inflicted on the planet. Leading global powers have continued to invest in fossil fuels at the expense of greener alternatives (Bonneuil C. Fressoz J.B. 2016).

Bruno Latour proposes in his book of the same name that, "we were never modern" and despite our constant pursuit for "progress" through the harnessing of nature, we are not separate and distinct but are in fact part of nature. There is no clear division between nature and culture but instead there are many hybrids in between which are interconnected through networks (Latour, B. 1991). Latour argued that in order to avert the impending geological global disaster, we must move from a system of production to a political ecology (Watts J. 2020). This involves a shift away from the local-Global dichotomy characterised by deregulation, extremes of wealth and poverty and climate change denial, to focus on the "Critical Zone", bringing together the terrestrial and the World and at the same time rejecting identity and borders (Latour 2018: 92). Timothy Morton similarly emphasises the need to rethink our assumption that we are the primary species on Earth but we are instead part of nature. Morton identifies ecology as a "Hyper Object", including global warming, evolution and extinction which are too big to be empirically observed and the sheer scale of this prohibits action. The planet is made up of interlinked dependencies, of symbiotic relationships from the micro to the macro. We coexist with other creatures as an interconnected whole; a "human-kind", or "symbiotic real" (Morton 2017: 32).

Drawing speculative imaginings through the deep lens of time

Drawing enables us to time travel to capture the haunting of the landscape by looking to the future and to the distant past for clues. Through my drawing practice I imagine new symbiotic relationships which emerge between species in the future. I look to nature to speculate on how this may manifest, exploring possible solutions in the natural world. Clues of ecological change remain present and observable as an imprint in the landscape. In "The Art of Living on a Damaged Planet", Tsing et al highlight that life past and present remain detectable on the Earth. The history of the world remains imprinted in the topography of the land as "ghosts and monsters" (Tsing et al 2017: G4). We can trace the emergence and decline between species and these remain etched in bones or as chemicals in the cells of living and dead matter, posing a threat for future life on Earth.

> *"Anthropogenic landscapes are also haunted by imagined futures. We are willing to turn things into rubble, destroy atmospheres, sell out companion species in exchange for dream worlds of progress".* (Tsing et al 2017: G2)

Traces of past life are used when recreating the Prehistoric World for the television programme "Prehistoric Planet" presented by David Attenborough (Favreau, J. Gunton M. 2022). Informed by the latest scientific research and working with the series consultant, paleontologist Dr Darren Naish worked with CGI artist John Favreau and the BBC's natural film unit lead by Mike Gunton to recreate the habits and interconnections of life on Earth 66 million years ago. Using digital technology, life on Earth is imagined through the deep lens of history. The depiction of the creatures' habits was a process of speculation where evidence was etched into fossils and the surrounding context in which they were found, including imprints in mud which helped to decipher the gait of the dinosaur. The interrelationship of fossil remains established sociability and bite marks in fossils of other species established food sources. In this way the organic form are marked like drawings into the rocks as fossils to capture moments in time. Scientists do not know definitively what the everyday habits of the dinosaurs would have been, however, Tim Walker the series producer said that conclusions can also be made by looking

at contemporary animals as they can inherit sets of contextual behaviours in similar conditions across space and time. In addition phylogenetic bracketing was used to attribute similar actions to the dinosaurs, retrieved from their line of descendants (Rigby S. 2022). This is a reversal of the approach that I take in imagining a future of life on Earth. By drawing the landscape, flora and fauna and considering scientific data on the Anthropocene I imagine a possible future.

Speculative imaginings through culture including art, mythology, science fiction and magical realism have long helped us to consider our place in the world, our encounters, our values and how we shape our future. Artists play a vital role in visualising these ideas through drawing to raise awareness of the issues of the Anthropocene. Katherine Hayles highlights the importance of visualisation in imagining future worlds.

> *"Whether an image is a visualization or visually evocative language, it is a powerful mode of communication because it draws on the high density of information that images convey."* (Hayles, K. 1999: 228)

There is an established tradition of drawing to speculate on future cataclysmic events. A contended example of this is Leonardo da Vinci's "A Deluge" (Da Vinci L. 1517) depicting an arial view of torrents of water cascading across a landscape and billowing into the air above to fill the page. Irvin Lavin proposes that the Deluge series was a warning of future catastrophe, disorder and chaos. He presents evidence that Da Vinci's other writings demonstrate that he was very aware of the connectedness of nature, and he makes the case that the drawings are a metaphoric representation of the end of the world as a deluge. Lavin concedes that there are no supporting notes to prove this. Other historians have argued that the drawings may be a depiction of historical storms, though Lavin maintains that this is unlikely as no site has been attributed to the works. Over his life time, Da Vinci produced numerous observational studies of water as he had a keen interest in hydrodynamics. Lavin comments on the precision and scientific accuracy of Da Vinci's observations, which have only recently been confirmed through the advances of science (Lavin I. 2018).

Genres relying on speculative imaginings through drawing have been used since antiquity to make sense of the world in particularly the unknown and unexplored. Through his research, Umberto Eco presents a rich tradition of imaginary worlds and its creatures, minerals flora and fauna. This was influenced by the "Physiologus" a Christian text from the second and third centuries. Originally written in Greek, it was illustrated with drawings of animal and mineral and was imbued with moral symbolism. This inspired Medieval encyclopedia depicting images of stones, animals and vegetable and bestiaries such as "Book of Monsters of Various Origins" (Eighth century). Travellers through the South and South East Asia, were inspired by popular cultural appropriation which exoticised the East and when they wrote about their travels, embellished their tales with familiar legend (Eco U. 2013, 2015:109). These included documentation of the adventures of Alexander the Great and in one such tale Pseudo- Callisthenes describes giant wild men. Isodore of Saville (560-636) depicted Blemmyes, headless men with a face in their chest cavity and the fast-running Sciapods, who rested sheltered from the sun under their single large foot. Marco Polo recorded seeing a unicorn, though he remarked that the vision was far from the image of the graceful horse-like creature with one horn but was instead a monstrous boar like animal with a large horn protruding from its forehead. The animal he described was in fact a rhinoceros. Notably, Polo's travels of Malabar were illuminated by images of Blemmyes, Sciapods and one eyed Monocolus although these creatures were not mentioned in the text. The infamous but fictious letter of

Prester John, was said to have been written by a holy man who lived in a Christian kingdom in South and South East Asia, depicting a land “where honey and milk flows, where no poisonous beast or serpent exists”. These narratives of fantastical beasts and men were further mythologised through images and texts such as the fifteenth century “Livre des Marveilles du Monde” (Eco U. 2015).

The Medieval genre of “Cockaigne” also relies on speculative imagining. Here the world and the habits of its creatures are inverted. Eco traces the influence of the genre to a tenth-century poem “Unibos” and amongst multiple examples includes a map of “Waldinous de Cuccagna” in 1188. “Cockaigne” was a popular fiction amongst the impoverished masses to imagine a more plentiful life, where in carnivalesque fashion the circumstances of the rich and poor could be reversed for a day (Eco U. 2013, 2015: 291). Through this tradition the roles of animals and humans were inverted so that fish caught men on rods and boars cooked men on skewers over a fire. This narrative did not purely provide an escape from reality, but the inversion offered an alternative perspective from which to view the world. Eco proposes that these contrary imaginings are present in religious teachings of justice, where the poor and humble would find their righteous place in heaven (Eco U. 2013, 2015: 292). Artists group AES+F have borrowed from the tradition of "Cockaigne" to develop a Video Installation “Inverso Mundus” exhibited at the Venice Biennale (AES+F 2015). This world depicts an inverse reality including scenes of a pig slaughtering a man on a hook, glamourous women locking up men in the stocks, young children celebrating defeat of the elderly at boxing and a man and woman carrying a donkey each on their backs.

Anthony Dunne and Fiona Raby create drawings to promote change. They ask questions rather than present solutions to prompt the audience to consider different ways of living through speculative design. The Foragers (Dunne A. and Raby F. 2009) imagines an over-populated world where foraging becomes necessary for survival and guerrilla gardeners, amateur horticulturalists and DIY hackers take on the challenge to find solutions to climate change so far unresolved by governments. They engineer wild plants to become edible and take advantage of molecular technology to engineer their own digestive systems, making wearable implements and tools to facilitate digestion of cellulose so that any plant form can be eaten. Rather than recreating imagined worlds, Dune and Raby focus on visualising the human interaction with the tools and objects to impact on economics, production, and consumption. Their images are presented as stylised vector silhouettes which have a strong graphic visual impact. Dune and Raby similarly propose that design is an accessible language and so it lends itself to change attitudes and mindsets. Through their design, drawings and visualisation, they aim to activate and inspire action in habits of living and consumption. Their designs do not focus on the future, but on what might happen next, they are not concerned with feasibility but on the potential to trigger a change in attitudes, behaviours, and consumption. Their future fictions and interfaces present a scenario to inspire a broader range of thinking from the public (Dunne A. and Raby F. 2009). In this way they are presenting an alternate reality to prompt questions.

Katja Davar's “Forking the Ocean” (Davar K. 2006) is an installation exhibited by The Drawing Room of large-scale drawing and 3D animation which aims to raise awareness of the Anthropocene. On large format screens juxtaposed by screen-prints exhibited in the space, a sea is inhabited by part organic part machine sea-creatures, swimming through the ruins of buildings at the bottom of the ocean. This is a dystopian vision of a posthuman world following a cataclysmic event where a city, now immersed in water is inhabited by semi robotic marine creatures. The video and large scale drawings using tangible and digital media, create an environment where the audience is transported to a future world where the impacts of the Anthropocene are visible.

Drawing the Anthropocene

"Chthulucene Hekateris" (Gould, C. 2022) explores a future world imagining the evolution of humans and other species as chimeras, as avatars. Working with a mixed media installation with characters drawn in 3D software, past genres including mythology are referenced to imagine the future. Anna Lovatt writes of drawings ability to open a portal into another world,

> *"Drawing has a unique ability to carve out worlds in the margin of a page or to distil unimaginable suffering into the curve of a graph. This nimble capacity to shift from the microcosmic to the macrocosmic makes the ancient art of drawing well suited to articulating contemporaneity as a multiplicity of worlds within worlds."* (Lovatt A 2021: 0.14)

Similarly, Jean Fisher celebrates the opportunities for escapism through drawing, of creating immersive alternate worlds.

> *"Enraptured by the miraculous conjuring of images I had early on succumbed to the lure of drawing and that curious abandonment to the power of the infinite that tempts the drawer to withdraw from the world and may herself on to a scenography of a different order."* (Fisher J. 2003: 217)

Through my practice based research I use reflection on action and living enquiry methods (Schon D. 1987). This is informed by John Dewey's writing on reflecting and thinking through experience (Dewey J. 1934) as well as Linda Candy's reflection model of “Creating, reflecting, creating again, investigating, creating again…”(Candy L. and Edmonds, E. 2011:45). My research is informed by scientists and social anthropologists which directs the content of my drawing practice. The development of the installation is ongoing as it is a generative process. Drawing as a method is ideal as it is defined by Patricia Cain as an open-ended process of discovery (Cain P. 2010: 266). It is an invaluable tool to facilitate the transition between seeing and imagining. Archeologist Lesley Mc Fadyen identifies drawing as a form of thinking, an interpretive process. She imbues archeology and the archival process as holding temporal qualities linking to the past and future.

> *"I take drawing to be about the drawn archive and the ability to go back to an image; Literally to draw up again. It is about knowledge that is made explicit after a drawing has been made."* (Mc Fadyen L. 2011: 42)

I explore what humans may become through evolution as a process of becoming. I investigate the interconnections between current species, to speculate on future symbiotic relationships. I work between traditional and digital media to investigate, imagine and experiment to develop a landscape and hybrid creatures that inhabit the world. I move between screen and paper through my drawing in non-linear ways, but always starting with observation using charcoal, pencil or graphite. I develop the studies fusing different drawn elements together to explore possible hybrid creatures. I use drawing to capture the interconnectedness of life on Earth. Drawing is as Steve Garner proposes, a "personal journey to enquiry and conjecture", it is a research process that enables a conversation through representation (Garner S. 2008: 13). Close observation enables an "intelligence of seeing" (Riley H. 2008: 129). Terry Rosenberg identifies ideational drawing as exploration and articulation of the unknowable and unknown (Rosenberg T. 2008: 79). Through drawing unexpected things happen, the anthromorphic shape of the gnarly tree trunk became emphasised, revealed in the process of mark-making over time.

FIGURE 3: "CHTHULUCENE HEKATERIS" GNARLY TREE TRUNK GOULD C. 2022 TO CURRENT CHARCOAL DRAWING ON PAPER

Through drawing I imagine possibilities and scenarios, drawing to see and to facilitate speculation (see figure 3). Richard Talbot identifies the optical illusion of seeing, the process of making sense of what we see from two dimensional images on the retina to interpreting three dimensional space (Talbot R. 2008: 32). Through drawing we can document play with our perception of vision creating optical illusion. Through drawing we can communicate a personal perspective, a subjective vision to others (Petherbridge D. 2010; 2).

My research is informed by social science and anthropological research into the Anthropocene. Writing is an important part of my research process and informs my investigation through line. I explore the inter-connections of life, the exchange and shift of future promise. Tim Ingold identifies the Earth surface as:

> *"A mesh or matrix of lines. Caught in the matrix there may be blobs: bits and pieces like pebbles, twigs and cones..the earth is perpetually growing over, in this regard it is neither superficial, nor infrastructural nor is it inert. It is rather, interstitial."* (Ingold T. 2015: 43)

Life on Earth is in a state of flux, through a process of gathering and releasing ourselves into the world as a constant relationship of continuous generation (Ingold T 2015 :43). Anna Lowenhaupt Tsing's research into mushroom pickers in Oregon exemplifies the fine balance of co-dependency where disturbance of the landscape makes way for the flourishing of another. In this case the decimation of part of the pine forest inadvertently made way for the Matsutake mushroom, creating "multi species worlds".

> *"Pines with their associated fungal partners often flourish and landscapes burned by humans; pines and fungi work together to take advantage of bright open spaces and exposed mineral soils. Humans, pines and fungi make living arrangements simultaneously for themselves and for others multi species worlds."* (Tsing, A. 2017 :22)

Through my drawing research I investigate forests and rewilding landscapes through observation. I draw from life on site and from photographs. I experiment with panoramic photographs as well as using 360 photographs to create 360 environments. I visit sites to investigate regenerative farming and rewilding to document and explore the landscape through drawing to observe the diversity of wildlife. Through these methods I aim to explore the interconnectedness of all things, the rich plethora of pollinating insects, attracted by the wildflowers and hedgerows, as well as a range of flora and fauna which offer a natural balance of mutual exchange. Tsing proposes that collaboration, reciprocity, cross fertilisation and contamination are essential to survival of life on Earth.

> *"Collaboration means working across difference, which leads to contamination. Without collaborations we all die."* (Tsing, A. 2017 :28)

Through drawing I imagine the contamination that may occur across species over time. I envisage a new era of collaboration, following a crisis of global warming so that Gaia can reclaim, heal and prosper. Tsing proposes that an individualist attitude has led to monocultures which weaken the resilience of species, where collaboration enriches us. I explore the transformations of living beings through reciprocity and mutations that may take place in the future.

> *"Thinking through self-containment and thus the self-interest of individuals (at whatever scale) made it possible to ignore contamination, that is transformation through encounter. Self-contained individuals are not transformed by encounter. Maximising their interests, they use encounters – but remain unchanged in them."* (Tsing A. 2017: 28)

Through drawing I explore collaborations that exist in nature to imagine new connections that may form, looking at flora and fauna but also living beings. I have created a series of drawings to develop hybrid creatures which are then developed through drawing in three dimensions. I aim to show the connectedness of all things imagining the development of fusions. In “Staying with the Trouble Making Kin” Donna Haraway further promotes the importance of collective activity and the interconnectedness of multispecies and the intricate associations this creates. By making associations and connections, species become more robust and resilient, establishing interdependencies extends individual capacity. Species rely on others for survival in a complex web of associations.

> *“Getting hungry, eating, and partially digesting, partially assimilating, and partially transforming: these are the actions of companion species…To be animal is to become with bacteria (and no doubt viruses and many other sorts of critters; a basic aspect of sympoiesis is its expandable set of players.”* (Haraway, D. 2016: 65)

Our bodies rely on microbes for all manner of survival including digestion and fertilisation. Many species rely on collaborative exchange and mutual dependencies Tsing gives the example of the Matsutake mushroom which exchanges carbohydrates from the roots of pine trees and in turn supplies nutrients for the trees, so that the trees can survive in poor soils. It has not been possible for humans to artificially recreate this symbiotic partnering as it only exists naturally, despite attempts at propagation. (Tsing A. 2017: 40) Tsing’s research into Matsutake mushrooms calls for new ways of thinking about ourselves and life on Earth and this could lead us to reshape and reimagine possible futures. Fungi change shape in response to their environment. Many are “potentially immortal,” they do not have built in obsolescence so do not die of old age, though lack of sustenance or damage can bring about their demise Through my practice I imagine new life forms, which reshape, and have the potential for eternal life. Tsing highlights that when we consider ideas such as this "we stray into magic" however, she emphasises that as incredible as it may seem, there is a precedent for this in life on Earth (Tsing, A. 2017:47).

Drawing enables us to examine ourselves and other beings living and otherwise on the planet from an alternative perspective and this can help us understand and conceptualise the world in a different way. This can facilitate collaboration, question preconceptions and prejudices as well as produce solutions and opportunities. Changing our perspective and conception of ourselves and our relationship to the world and its inhabitants can transform our futures within it. This could include conceptualising ourselves collaboratively rather than as an individual being, it could also change our relationship to time and space. These imaginings are possible through the immediacy of drawing.

> *“What if our indeterminate life form was not the shape of our bodies but rather the shape of our motions overtime? Such indeterminacy expands our concept of human life, showing us how we are transformed through encounter. Humans and fungi share such here and now transformations through encounter.”* (Tsing, A. 2016 :47)

Through drawing we can imagine beings that are not defined as primary and secondary beings but rather as a fluid whole, expanding the potential of individual components. Donna Haraway describes symbionts as “knots of diverse intra-active relatings in dynamic complex systems” rather than bounded entities where the interaction is either competitive or co-operative. She does not assign “host + symbionts” as all interact with each other to varying degrees. She proposes that our assumptions of individualism limit our understanding of the advantages and challenges of these exchanges and mutual associations formed

through symbiosis. Through this collaborative approach, the living on Earth can flourish together for a new and hopeful future (Haraway D. 2016: 60).

Through "Chthulucene Hekateris" (Gould C. 2022) the characters inhabit a future world, contemplating the Anthropocene through drawing to imagine the new allegiances that are formed, where Gaia takes back control to reduce human impacts on the planet redressing the balance between life forms. Latour and Haraway propose that we use story telling through metaphor as an effective way to communicate with audiences to prompt change. (Haraway D. and Latour B. 2020) Drawing as an accessible medium is a potent visual communication tool to invite audiences to think about the world and our relationship to nature in a different way, to make a difference for future generations in order to be part of the change.

Conclusion

"Chthulucene Hekateris" (Gould C. 2022) explores possibilities, from the fantastical to the real, the terra beneath our feet, the flora and fauna and living beings of the future. This work depicts a world where humans are not the primary species. Life on Earth is in constant flux and through drawing I explore a process of becoming, speculating on the transformation over time of the Earth and its inhabitants. Drawing is fundamental to the work and it is an ideal medium as it provides spontaneity but also the space for contemplation. Through a meticulous process of drawing characters in three dimensions, the nuances and the possibilities of future evolution are considered. Drawing offers opportunities for deep contemplation on life in the present to imagine the future. As an accessible medium it offers opportunity to communicate effectively with audiences as a provocation to prompt change. This mixed media installation provides an opportunity to bring the audience into the conversation so that people can rethink assumptions and habits, to bring about change in collective behaviours, for a positive impact on the future of the planet.

References

AES+F., 2015. Inverso Mundus. (with 7,3,and 1 channels, 38 mins, series of stills and pictures, digital collage) https://aesf.art/projects/inverso_mundus/ last accessed 20 April 2022.

Bonneuil, C. and Fressoz, J.B., 2016. The Shock of the Anthropocene, Verso.

Candy, L. and Edmonds, E., 2011. Interacting: Art, Research and the Creative Practitioner, Libri Publishing.

Cain, P., Drawing, the enactive evolution of the Practitioner.

Da Vinci, L., 1517. A Deluge.

Davar, K., 2006. Forking Ocean Path, Exhibition the Drawing Room.

Dawkin, R., 1976, 1989, 2006. Selfish Gene. Oxford University Press, Oxford, New York.

Darwin, C., 1859. this 2019, On the Origin of the Species, The Natural. History Museum.

Dewey, J. (1934) Art as Experience, Perigee Book, New York.

Dunne, A and Raby, F., 2009. Designs for an over populated planet: Foragers. http://dunneandraby.co.uk/content/projects/510/0 last accessed 20 April 2022.

Dunne and Raby (2009). https://www.youtube.com/watch?v=-bns4qcRRYY last accessed July 2022.

Eco, U. 2013 (this 2015). The book of legendary Lands, MacLehose Press, London.

Favreau, J. and Gunton M., 2022. Apple TV https://www.youtube.com/watch?v=uD-erQ1ksz8 last accessed 7 June 2022.

Fisher, J., 2003. In De Zeghar (ed) The stage of Drawing Gesture and Act, Tate.

Foa, M. Grisewood, J. and Hosea, B., 2020. Performance Drawing: New Practices since 1945, Bloomsbury, London, New York.

Furse A., 2020. In Foa M. Grisewood J. Hosea B. Performance Drawing: New Practices since 1945, Bloomsbury, London , New York.

Garner, S. 2008 Writing on Drawing: Essays on Drawing Practice and Research. Intellect, Bristol, Chicago.

Gould C., 2022. Chthulucene Hekateris.

Haraway, D., 2016. Staying with the Trouble, Duke University Press Durham and London

Haraway, D., 2017. https://www.youtube.com/watch?v=z-iEnSztKu8 last accessed 4 July 2022.

Haraway, D. and Latour B. 2020, Critical Zones Discussion of the Film Story Telling for Earthly Survival, ZKM, Karlsruhe https://www.youtube.com/watch?v=j-2r_vI2alg last accessed 6 July.

Hayles, K. 1999. How we became Posthuman in cybernetics, literature and informatics, the University of Chicago Press, Chicago, London.

Ingold, T. 2015 The Life of Lines Routedge, Oxon UK, New York, USA.

Latour, B. 1991. “We have Never Been Modern” translated by Catherine Porter Harvard.

Latour, B. 2018. Down to Earth Politics in the New Climate Regime, Polity Press USA.

Lovatt, A., 2021. In Elderton L. Morrill R. (eds), Vitamin D3 Phaidon Press New York.

Lovelock, J. Margulis, L. Gaia, 1979, this 2000, Oxford University Press, Great Britain

Marranca, B., 2020. In Foa M. Grisewood J. Hosea B. Performance Drawing: New Practices since 1945, Bloomsbury, London , New York.

Mc Fadyen, L. 2011 In Tim InGold (ed), Redrawing Anthropology Materials Movements Lines. Ashgate, Surrey UK.

Morton, T., 2017. Humankind: Solidarity with Non-Human People, Verso.

Petherbridge, Deanna., 2010. The Primacy of Drawing. New Haven and London: Yale University Press.

Rigby, S., 2022. https://www.sciencefocus.com/nature/prehistoric-planet-the-cutting-edge-science-behind-attenboroughs-dinosaur-documentary/ accessed 5/5/22.

Riley, H., 2008. In Garner S. Writing on Drawing: Essays on Drawing Practice and Research. Intellect, Bristol, Chicago.

Rilke R. M., 1904. Letter VIII: Borgeby Gård, Flädie, Sweden, https://www.poetryintranslation.com/PITBR/German/RilkeLetters.php#highlightfuture+enterslast accessed 7 June 2022.

Rosenberg, T., 2008. In Garner S. Writing on Drawing: Essays on Drawing Practice and Research. Intellect, Bristol, Chicago.

Schön, D. A., 1987. Educating the Reflective Practitioner: Toward a new design for teaching and learning in the professions. Jossey-Bass.

Stengers, I., 2015 (first published in French in 2009) http://openhumanitiespress.org/books/titles/in-catastrophic-times accessed July 2022.

Talbot, T. 2008. In Garner S. Writing on Drawing: Essays on Drawing Practice and Research. Intellect, Bristol, Chicago.

Tsing, A. Swanson, H. Gan, E. and BuBandt, N. (eds) (2017). Arts of Living on a Damaged Planet.

Tsing, A., 2017. The Mushroom at the End of the World. Princeton University Press.

Watts, J., 2020, The Guardian, June 6 2020, accessed 20 April 2022), https://www.theguardian.com/world/2020/jun/06/bruno-latour-coronavirus-gaia-hypothesis-climate-crisis.