

Land as Archive: A Collection of Seen and Unseen Shadows

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ABSTRACT

Land as Archive: A Collection of Seen and Unseen Shadows, 2017

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Looking at the intersection of sculpture and drawing, *Land as Archive* is a practice-led and self-reflexive body of research that considers the environmental realities of the Anthropocene by investigating the agency of “things” and their shadows. Focusing on the seen and unseen shadows of the global textile industry as well as documenting material excess consumed, reclaimed and produced during the research process, this inquiry aligns with Object Oriented Ontology to argue that shadows are actants and objects that conceal quantitative and qualitative data about our interconnected and traumatized landscapes.

After obsessively locating, recording, analyzing, assembling and archiving shadows in conjunction with environmental data, this collective body of work aims to answer three questions: How do shadows serve as material that can provide visual data about our material culture, how can one record the agency and affect of shadows through drawing and sculpture, and what might a real shadow look like?

Keywords: Anthropocene, Materialism, Networks, Agency, Shadows, Land, Archive, Abstraction, Globalism

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DEDICATION

For Phyllis Price, a widow, mother, grandmother, survivor and lover of wine, cheese, bread, butter, nuts and chocolate – your sense of humour and minimalist approach to the material things in life keeps me grounded.

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PROLOGUE

LAND as Archive emerges from sustained engagement with critical and contemporary discourse around landscape theory. Fascinated with why things are the way they are, I often ask questions about how our landscapes have been designed, how they are changing and what the larger impacts might be. Out of these queries, my work aims to present narratives about the fragility, messiness and interconnectivity of our landscapes, where land becomes objects, objects become land and land becomes human.

Desiring to arrive at a material practice able to communicate beyond personal perceptions about the current state of earth, I take inspiration from artists such as Brian Jungen and Marianne Corless who effectively use altered ready-mades to visualize stories of our past, which inevitable inform our existence today. Jungen, of Swiss and Dunne-za First Nations ancestry uses manufactured goods to create large assemblages that speak to how commodification and consumerism impact a culture environmentally and psychologically. An example of this is Jungen's work *Shapeshifter, 2001*, a powerful sculpture of a whale skeleton made completely out of white polypropylene plastic chairs. This work comments on cultural hybridity (Canada 2001) and points to how plastics are biologically changing the makeup of living organisms.

Equally powerful are Marianne Corless's monumental portraits of "members of the French and English monarchy, and early prime ministers" of Canada (Corless 2001). Constructed from recycled fur coats, the material of fur immediately speaks to our nation's violent and exploitive history of the Trans-Atlantic fur trade.

Setting out to examine how land serves as an archive of our collective human behaviour and materialistic pursuits, what I unearthed were shadows.

LAND AS ARCHIVE

Like many consumers, I often fall victim to the spectacle of materialist culture. Drawn in by an object's form, colour, material or texture, rarely do I know how or where these objects are made. With accumulating media coverage about ecological devastation and human tragedies such as the Rana Plaza collapse in 2013, the intent of *Land as Archive* is to arrive at a more holistic understanding about the environmental realities of the landscapes we collectively inhabit. Practice-led, this interdisciplinary and self-reflexive body of research explores the nature and agency of shadows whereat shadows become a metaphor for the carbon footprint of industrial production and dissemination as well as for the social and psychological impact of global exchange. Most simply the presence of an absence of light, I argue that beyond their poetic, abstract, and dark appearance, shadows are traces of material that provide quantitative and qualitative data about the times in which we live.

To situate this research within our planet's evolutionary timeline, the epoch we live in is referred to as the Anthropocene, a geological era in which the earth serves as a physiological document of the environmental impact "of human species and its scientific-technological desires on the planet, [...] that are ensuring that there won't be much of humans in the future" (Parikka 2014, 1). This concept is supported through environmental data such as increased water levels, temperatures and plastic particles in our oceans, chemical contamination and related illnesses world wide, as well as bio-capacity and deficit assessments, which work to estimate "Earth's Overshoot Day"; the day where "the total combined consumption of all human activity on Earth in a year overtakes the planet's ability to generate those resources for that year" (Bullard 2015).

Within his book *The Anthrobscene*, Jussi Parikka, a professor in technological culture and

aesthetics, reveals how geologist Antonio Stoppani spoke of the Anthropocene long before it emerged as a familiar term in critical circles (Parikka 2014, 1).

[...] much of the earth's surface by now disappears under the masses that man built as his abode, his pleasure and his defense peaks! By now the ancient earth disappears under the relics of man or of his industry. You can already count a series of strata, where you can read the history of human generations, as before you could read in the amassed bottom of the seas the history of ancient faunas.

Antonio Stoppani, Corso di Geologia, 1873 (Parikka 2014, 2)

After reading the citing of Stoppani, it becomes clear why Parikka titles his book the *Anthrobscene*, as I too find it obscene that despite the ecological foresight of geologists and others who study our planet, we have yet to witness or embrace a global paradigm shift from consumptionism to conservationism. Parikka suggests this philosophical delay is due to the public only now beginning to become aware of the geological era we live in (Parikka 2014, 2).

As a maker and a consumer who has acquired an increased awareness about the Anthropocene, I have come to agree with contemporary philosopher Rosi Braidotti's notion that "globalization" is the "commercialization of planet" (Braidotti 2013, 7). Although still descriptive, the collection and presentation of shadows in *Land as Archive* draws on the absurdity of how nature is often mimicked, commodified, packaged and disregarded all at once.

Beyond recording and analyzing shadows of personal excess, this research also investigates the global textile industry to conceptually explore what constitutes a shadow, how shadows serve as data and how shadows might powerfully represent the carbon and social impact of the hyper-object¹ consumptionism that globally connects the world today. Shocked by the social, political

¹ Hyper-object is a term coined by Timothy Morton that implies when things, material or immaterial, have global agency beyond human control or intervention.

and economic realities of “fast fashion” brought to light in a 2015 documentary entitled *The True Cost*, this inquiry also arises out of a past obsession with fashion and research that identifies textiles as the world’s second largest polluter only after oil and gas industry (Conca 2015). In addition, textiles were the first industry to be mechanized (McDonough and Braungart 2002, 18) and one of the earliest industries to establish global networks of trade, helping to shape landscapes around which they flourished or floundered. An early example of this is the Silk Routes’ or Silk Road, which brought wealth and innovation to different parts of the eastern hemisphere. However, the Silk Road also led to the delivery of violence (UNESCO n.d.), disease (The Scribe, 2011), environmental disruption, economic monopolies (Wendelken 2007, 21) and the exploitation of natural resources and humanity along its paths (UNESCO 1997, 4). Upon researching the affects of early globalism and the environmental impact of the phenomena “fast fashion” (Morgan 2015), textiles arose as the perfect industry to probe for environmental, social and political shadows.

Embracing both a historical and contemporary understanding of textiles, that being any material used in the creation of supportive, protective or decorative fabrics, this inquiry works with environmental and social data to speculate about how physical, social or psychological shadows have an affect on all that they interact with way beyond sites of origin. Although not delving into Jung’s psychological theory of shadows, *Land as Archive* does offer examples of where we find psychological shadows within our landscapes today while contemplating the potential of quantifying and communicating the unseen and haunting realities of ecological devastation that binds humanity and land together.

In order to explore the potential of shadows to visualize data both quantitatively and qualitatively so as to relay the impact of materialism on our landscapes, this body of research

aims to answer three research questions:

1. How do shadows serve as material that can provide data about the excess and affect of material goods?
2. Can one record the agency or affect of shadows through drawing and sculpture? and
3. What might a real shadow look like?

To look at how shadows have been used as data in the past, the writings of Roberto Casati and Victor I. Stoichita are examined within *Land as Archive*'s literary review. Taking up theories of Object Oriented Ontology as discussed through texts by Jane Bennet, Graham Harman, and Michael Braungart and William McDonough, I also argue that shadows are material that have agency and that material "things" also act as shadows.

Studio outcomes from *Land as Archive* offer insight into how a methodology of material complicity, a methodology that requires one to follow, work with and analyze materials, led to a rich drawing practice, environmental research and explorations in assemblage to arrive at an expanded conceptual understanding of shadows and their ecological effects.

This body of the text will also outline how the methods of locating, collecting, assembling and archiving shadows led to self-reflection as a maker and consumer, ultimately pointing to shadows as a potential research methodology, communication device or analytic system for design and production in the future.

Chapter 2: Shadows as Data, Material and Actants

When looking to shadows to serve as visual metaphors for a “thing’s” environmental footprint or social impact, it becomes important to first explore what can potentially serve or be defined as data. Originating from the Latin word datum in the 17th century, datum was defined as “a piece of information, an assumption or premise from which inferences may be drawn, or a fixed starting point of a scale or operation” (Oxford Dictionary). The online Business Dictionary defines data as “information in raw or unorganized form that refers to, [...] or represents, conditions, ideas, or objects [...] limitless and present everywhere in the universe.” In an article entitled *A Philosophy of Data*, Bruno Teboulⁱ outlines how within philosophy “data is the known territory from which one explores the unknown”, “something that is both given and that imposes itself” and serves “as a basis for shared reflection, to drive technical development, to establish public policy or to fuel scientific knowledge” (Teboul 2017). These definitions collectively imply that anything can serve as data or contain it.

Returning to the field of arts and humanities, Fernanda B. Viegasⁱⁱ and Martin Wattenbergⁱⁱⁱ are two researchers who recognize the importance of data visualization and celebrate artists who embrace scientific data or techniques “to create pieces that actively guide analytical reasoning and encourage a contextualized reading of their subject matter” (Wattenberg 2007, 1). The upcoming paragraphs will argue that shadows, measurable both qualitatively and quantitatively, are data in themselves that point to data contained within the actants that cause their manifestation.

2.1 Shadows as Data

As early as 32,000-30,000 BCE shadows have offered us pictorial data. Within the Lascaux cave paintings “the shadow had been integrated into the area of a complex representation to suggest the third dimension – volume, relief, the body” (Stoichita 1997, 7). Often considered the earliest form of photography (Stoichita 1997, 157), shadows continued to serve as primitive forms of documentation that helped one perceive form and space. Over time, shadows were increasingly employed as illustrative devices, becoming more advanced in their rendering. In the 1400’s shadows were used to visualize the illusion of space as well as symbolize agency and affect of spiritual beings. Masaccio’s unconventional fresco depicting *St Peter Healing the Sick with his Shadow, 1427*, is one example provided within *A Short History of Shadows* by Victor Stoichita^{iv}. In this painting St. Peter’s shadow passes over the weak and the wounded, at which time they appear to experience a miraculous recovery (Stoichita 1997, 66).

From a more mathematical angle, early philosophers, astronomers, architects, and scientists used shadows as a way of measuring the world around them. Aristotle was able to use shadows to determine “the earth was spherical and larger than the moon” (R. Casati 2003, 209). Other early astronomers such as Aristarchus of Samos and Hipparchus utilized shadows to calculate the distances between the earth, the sun and the moon, as well as arrive at the circumference of the earth (R. Casati 2004, 66, 133). Stemming back to the invention of geometry in ancient times, architects still use shadow studies of proposed architecture to assess how new buildings will affect the environment around them (R. Casati 2004, 16-18).

When undetectable and unmeasurable, shadows can be revealed within social, political, economic and environmental data. Within the global textile industry, we can find three types of shadows manifested in how Western industrialized countries deal with their excess of goods.

For example, physical shadows manifest as the average U.S. consumer “throws away sixty-eight pounds of clothing and textiles” annually, with only fifteen percent of this being “collected and prevented from entering directly into the waste stream.” Of the eighty-five percent of textiles not collected, forty-five percent of those textiles, equalling more than 7 billion pounds, are sent out of country to supply second and third level economies abroad (Claudio, *Waste Couture: Environmental Impact of the Clothing Industry* 2007). Although this at first seems generous, it in fact creates numerous problems in the receiving countries. One of the social shadows cast via the influx of cheap ready-made goods is the undermining of small local industries. These instant economies based on first world waste also deter the need for the development of skills in young people (Morgan 2015). It only makes sense that these social shadows develop into psychological shadows for individuals or entire communities whose skills remain undeveloped or are left unutilized. Additionally, the physical shadows of the exported waste continue to spread, shift and seep as the materials break down in open landfills, as many developing countries lack the technology or infrastructure needed to manage the excess that builds up on and contaminates their land.

2.2 Shadows as Material, Material as Shadows

Very early in art and philosophical histories, shadows were studied and used as material to gain understanding and document the world around us. Early myths such as Plato’s *Origin of Knowledge* (Plato 1963) (Stoichita 1997, 20,21) and Pliny’s *Origin of Art* (Pliny 1896), become important when considering shadows as material. Plato’s *Allegory of the Cave* (Plato 1963) confirms my position that shadows are immaterial material that conceal layers of knowledge in their depths of darkness. Within this myth, we are told of humans confined to a cave where their

only understanding of the outside world was through projections cast by the sun onto the back of a cave wall. Although limited to abstracted forms, we are presented with early forms of cinematic theory, where shadows are animated material pointing to that which we do not know. This myth also worked to connect me to writings on immaterial materialism by the American Philosopher Graham Harman, a contemporary philosopher who coined the term Object Oriented Ontology and who argues that all objects are autonomous regardless of their relations or how they are perceived (Harman 2011, 13-16). Harman's concepts assisted in helping me to arrive at shadows as being entities or objects in their own right in that they are different than the lights, surfaces or objects upon or from which they are cast.

Pliny's myth of the origin of art presented a narrative of how shadows were used as both source material and an illustrative tool for early creative production. Within this myth, Pliny the Elder, an author, naturalist and philosopher, tells of a story of a potter's daughter who traced her lover's shadow before he left for war. It was from this traced shadow that her father drafted a clay form in which he incorporated relief elements to further the fantasy of his presence. This myth not only speaks of the power of a shadow to pictorially depict that from which it is cast, but to also stand as a physical surrogate or document for that which no longer exists (Pliny 1896). Stoichita suggests that this concept may have found its roots in Egyptian culture "as the shadow was how the Egyptians first visualized the soul (ka) [...] subsequently considered to be his double" or "externalization of his being" (Stoichita 1997, 19) (Marilyn Stokstad 2016, 50). Contemporary artist Christian Boltanski seemingly embraced these beliefs when he used projected shadows as a charged material to revisit the physical and psychological impact of the monumental violence and death associated with the holocaust in his 1991 installation *Shadows* at the Kunsthalle in Hamburg.



Figure 1: C. Boltanski, *Le Théâtre d'ombres* (1984-1997), (Source: C. Boltanski at Galerie Marian Goodman)

Outside of the art world, Judith Shulevitz's research suggests that psychological shadows actually transform into physical material. In her article *The Science of Suffering*, Shulevitz presents evidence that traumatic events alter human cells, which are then transmitted down multiple generations as biological traces or shadows that have physical, mental and social effects on our existence for hundreds of years after their occurrence. She points to the suffering and aftermath of indigenous communities around the world as examples of where we can see these scientific theories at work (Shulevitz 2014).

Where shadows become most relevant in relation to our traditional understanding of the environment is while reading the writing of political theorist Jane Bennet^v. Within the preface of her text *Vibrant Matter: A Political Ecology of Things*, Bennet acknowledges the immaterial or hidden as having agency; her goal being to “highlight what is typically cast in the shadow: the material agency or effectivity of non-human or not-quite-human things” (Bennett 2010, iii). By

Bennet using the word shadows when speaking to what many of us might not see, hear, smell or sense, she encourages us to consider shadows as taking different forms across different senses or refer to all traces of matter as shadows. Bennet also speaks of unseen materials or objects as being vibrant, despite our perspective of them being inert, inactive, or inanimate. If we consider the unseen material affects of objects as the shadows of their existence, Bennet's description of trash as "not "away" in landfills, but generating lively streams of chemicals and volatile winds of methane" (Bennett 2010, ii) proposes that shadows are only as ephemeral as the materials that produce them. By applying this concept to the excess of goods disposed of each day, it suggests that the shadows lying beneath and inside the 10.5 billion tonnes of textiles Americans send to landfills annually (Claudio 2007, 452), will persist for the same duration it takes these objects to decompose. Under the right conditions, this would mean that the shadows of wool socks would disappear in one to five years and the shadows of nylon fabric would remain anywhere from thirty to forty years (U.S. National Park Service n.d.). Bennet pushes this concept further by stating our refuse can never truly be thrown away. It is from this statement that Bennet assists in advancing our understanding of how shadows of material goods never disappear, but rather remain beneath or beside the smallest arrangements of matter that continue to form the surface and strata of our landscapes.

Environmental designers William McDonough^{vi} and Michael Braungart^{vii} support Bennet's theories when they explain how chemical processing required in manufacturing affects the land even in decomposition, seeping or drifting away beyond the visible footprint of the object (McDonough and Braungart 2002). They draw attention to how synthetic fabrics release hundreds of thousands of plastic microbeads into our water systems. One might argue that these miniscule plastic beads extend the shadows of fabrics and other products, as it is reported that

they eventually make their way into a variety of eco-systems whereat they are consumed through a variety of living organisms by crossing food chains over time (Government of Canada 2015).

Petra Lange-Berndt^{viii}, a leading researcher in the field of material studies also confirms the argument that shadows are material when she states:

From a critical perspective, the term ‘material’ describes [...] substances that are always subject to change be it through handling, interaction with their surroundings, or the dynamic life of their chemical reactions. (Lange-Berndt 2015, 12)

Lange-Berndt goes on to outline how “materiality points to the whirling complexity and entanglement of diverse factors [...] in which ‘material’, [...] can now also be something that is not physical”, but “is an effect of an ongoing performance” (Lange-Berndt 2015, 14)

Photographic documentation of backlit objects and Roy Sorenson’s^{ix} explanation of silhouettes as the observation of the shadowed side of an object within his text *Seeing Dark Things* led me to the radical leap that objects could be considered as shadows. To substantiate this claim, I draw from my observations of how material objects are three dimensional assemblages that shadow other objects and space, are the absence of light, obscure our view, conceal information and affect the experience of things and space around them. Additionally, all material, ephemeral, conceptual or durable are traces of other objects at work that physically or conceptually alter or inform our perception in which they are interacting in time and space.

We can see evidence of material serving as psychological shadows or traces within Christian Boltanski’s large installation *Réserve*, Canada, 1988, 'Kanada' being “the name given by prisoners to the room at the Auschwitz concentration camp that served as a sorting and storage depot for the property of inmates.” (Greenberg 2005) In this work the artist presents large amounts of hung clothing to memorialize human lives while simultaneously pointing to their absence through the presence of limp and crumpled clothing.



Figure 2: Christian Boltanski, Reserve, Canada, 1988 (Photo credit Ydessa Hendeles Art Foundation)

2.3 Shadows as Actants: Material with Agency

Graham Harman and Jane Bennett also draw us to the materiality of “thing power” and the “complicated web” of connections between different forms of matter, acknowledging that immaterial things, such as impressions, values, exploitation and pleasure have agency as they have the ability to affect and be affected by other actants around them. (Bennett 2010, 13,14) (Harman 2016) It has been said that these contemporary views of materialism found in OOO Theory and New or Vibrant Materialism were able to emerge due to the innovative thought developed via Bruno Latour’s within Actor Network Theory. Within her book *Vibrant Matter*, Bennett summarizes Latour’s definition of agency and actants as,

a source of action that can be either human or non-human; it is that which has efficacy, can do things, has sufficient coherence to make a difference, produce effects, alter the course of events. It is “any entity that modifies another” [...]. (Latour 2004, 237) (Bennett 2010, iii)

Outside of theoretical writing, when thinking of shadows as actants we can all relate to skyscrapers casting shadows onto the streets below. At times shadows of these buildings create dark, cool spaces, making one side of the street more desirable than the other when searching for an outdoor patio or walking to work on a cold, sunny day. More detrimental are shadows that create unsafe spaces of passage or deny vegetation light required for photosynthesis and the oxygenation of air much needed in high carbon dioxide environments. The physical and psychological agency of urban shadows has led to anti-shadow regulations (R. Casati 2004, 16), requiring urban planners and developers to conduct shadow studies with each new build. We might ask why shadows are measured in one industry and not others.

Perhaps most significant is how environmental science identifies light, moisture, temperature and oxygen as the four major catalysts that assist in breaking down materials efficiently (Vivanco 2006, 556). By default, these facts deem shadows, whether cast or contained, as active actants in the formation of landfills and a contributing factor to their own longevity.

If we look beyond the scientific implications of shadows, in Chapter III of *The Shadow Club* by Roberto Casati^x, the author clearly outlines how “Shadows can act as well as be acted upon” (R. Casati 2003, 22-29). Casati presents a variety of cultural myths that work to transform shadows from the immaterial and fleeting to haunting material through cultural myths and practices, stating that, “Certain non-Western cultures seem to prefer a conception of shadow as an object animated by a life of its own”; possessing various powers to affect both the physical and psychological aspects of our lives. Casati also relays stories where shadows were believed

to “behave like a vital part of the body, [...] and so must be protected” (R. Casati 2004, 22), with other shared narratives transforming shadows into psychic phenomenon.

Casati also shares how economist Lester Thurow felt it was Japan’s phobia of shadows that hindered the country’s economic growth nearing the 21st century as they were unwilling to change regulations and tax laws that required “people building high-rise residential towers” to “negotiate with and compensate those that lie within their shadows” (R. Casati 2004, 15,16). Whether this phobia has been substantiated or the Japanese are advanced in their understanding of the importance of light in ecologically healthy environments, we can be sure that the “quick and violent” (R. Casati 2004, 15) nuclear shadows in Hiroshima will forever haunt this country.

Upon reflecting on this collective understanding of what constitutes material, actants, agency, and thingness, it has become extremely clear that shadows, ephemeral, intangible and persistently intra-acting with other actants, are definitely “things” that have the potential to serve as powerful and mutable metaphors for the complex ecological networks of our global landscapes that are in a constant “state of becoming” (Deleuze and Guattari 1987). The next chapters will outline how Material Complicity as a methodology facilitated the discovery of these summations through a combination of studio investigations and basic forms of research.

Chapter 3: Methodology, Methods and Outcomes

3.1 The Methodology of Material Complicity

This practice-led and self-reflexive body of research began from an adaptation of American land artist Robert Smithson's *Glue Pour, 1969* (Lauder 2015). Intended as a means of indexing the earth's surface, Plaster of Paris was poured onto forgotten industrial sites and suburban landscapes as a way of giving land agency within my mark making process. An unexpected result was the sun and wind intra-acting² with botanicals to cast shadows across the drying plaster. This marked the point at which I began looking at shadows as actants upon the land and started my journey of following, working with and allowing shadows to have agency.



Figure 3 (Left): R. Smithson, *Glue Pour, 1970*, From left, R. Smithson, D. Lunden and L. Lippard, (Photo by Christos Dikeakos)

Figure 4 (Right): Jill Price, *Plaster Pour, 2015* (Photo by artist)

² Intra-action is a relationship that can be characterized as the agency that occurs due to the interaction of different actants, non-living or living. A term affiliated with Actor Network Theory as developed by John Law, Michel Callon and Bruno Latour

To examine how shadows might serve as visual metaphors for the impact of material culture on land, Material Complicity was embraced as a methodology to explore materials and their shadows for ecological narratives hidden in dark spaces cast or contained. Also an approach embraced in the fields of archaeology, botany, and biology, in her essay, *How to be Complicit with Materials*, Petra Lange-Berndt, defines material complicity as any methodology that explores what it means “to follow the material, to give agency to the material and to act with the material” (Lange-Berndt 2015, 13). We can see this within archaeological circles where practitioners of science look to material, both organic and inorganic, to gain insight into human activity and the state of the land itself. Looking at the method of Stratigraphy; researchers study geological layers of soil or sediment “to determine the relative age of each layer” and help “determine the relative age of an artifact or site” (Society for American Archaeology n.d.). Even when completely decomposed, some materials leave visual shadows behind through the discolouration of soil where they laid. These shadows of past materials and different geological layers are able to inform us about our cultural and material histories.

Land as Archive proposes that the seen and unseen shadows of present day “things” are a way of predetermining traces to be left atop and below our landscapes in the future. By following our present day materials, we can perhaps predetermine how the shadows of things are informing and even controlling the environments we live in.

In order to follow shadows, objects which Harman classifies as “sensual” or “an intentional object”³ (Harman 2016, 3), this research takes up the call from Karan Barad for a “posthuman performative approach” to research in the humanities social studies and sciences (Barad 2007,

³ Graham Harman describes sensual or intentional objects as those being objects that are present from the moment we intend them or which they are encountered,

135). Lange-Berndt confers that the most important aspect of material complicity is to “acknowledge the non-human”, allowing material to have or share agency, requesting that in order to work collaboratively with material, we must consider material as another worker in itself or having “a life of its own” (Lange-Berndt 2015, 17). Lange-Berndt asks us to consider the writings of feminist theorist Elizabeth Grosz, who suggests that the thing “has characteristics of its own, which we must incorporate into our activities in order to be effective” (Lange-Berndt 2015). Lange Berndt expands on this last notion in an excerpt *Make the Materials Laugh*, which introduces a volume of texts in which artists focus “on the moments when materials [...] become wilful actors and agents within artistic processes and enmesh their audience in a network of connections” by understanding “the history of the materials,” researching other contexts of their existence and following “their traces” (Lange-Berndt 2015, 18-20).

Environmental designers McDonough and Braungart also outline how responsible design demands we follow the material from its raw and “natural” states to their final forms to truly understand materials for their life giving or life taking qualities while ensuring equity and economy along the way (McDonough and Braungart 2002, 149-152). To uncover environmental data enveloped within the shadows of material goods ultimately requires historical research into the context or “causality” of their presence; the principle of “causality” or “determinism” being a universal phenomenon that acknowledges that all things, whether they be an effect, object or idea, are a result of other conditions giving rise to their existence (Spirkin n.d.).

Within his text the Quadruple Object, Harman also demands that objects or things should not just be “undermined”⁴ or “overmined”⁵ for meaning”, but rather any research concerned with

⁴ Graham Harman defines undermining as completing reducing objects down to their base materials versus acknowledging the assemblage as a whole (Harman 2011, 8-10).

⁵ For Harman overmining an object means to only find importance or value in relation to how it is perceived or affects other objects (Harman 2011, 11).

objects must be required to “duomine”⁶ their reality (Harman 2011, 7-19). Barad refers to this discursive approach to research as a “diffractive method” (Barad 2007, 71-94); a method which searches for a variety of ways to understand objects or materials, insisting that both non-human and human agents, despite their differences, produce meaning and knowledge and that “knowing is not a bounded or closed practice but an ongoing performance of the world” (Barad 2007, 149). This rhizomatic and discursive way of following materials also reflects Lange-Berndt’s assertion that “to follow the material means to enter a true maze of meanings, where one encounters terms such as matter, material, materiality, Stoff, substance or medium” (Lange-Berndt 2015, 14). Additionally, Lange–Berndt writes that to “focus on the materials of art; [...] means to consider the processes of making and their associated power relations, to consider the workers, [...] their tools and spaces of production” (Lange-Berndt 2015, 12). This is why self-reflexivity becomes an important process at every stage of the research process.

To summarize, Material Complicity as a methodology demanded traditional modes of research and a discursive approach to studio investigations to arrive at arguments presented within *Land as Archive*. By following, working with and allowing shadows agency during the research process, methods used closely aligned with an archaeological methodology. Before describing outcomes, I will outline how locating, collecting, assembling, and archiving shadows were integral methods within this methodology in order to expand my knowledge about shadows as objects, materials and actants from an more holistic ecological perspective.

⁶ Graham Harman defines duomining as the act of both undermining and overmining an object simultaneously (Harman 2011, 13).

3.2 Methods: Locating, Collecting, Assembling, and Archiving Shadows

Locating Shadows

Working with shadows, like any material, requires understanding your material from different vantage points. As in archaeology, surveying historical locations is the first step in identifying the importance or relevance of a site in relation to what one is studying. In that most material goods are assembled across multiple sites within the extraction, production, packaging and distribution, visits to the Panama Canal, Florence and early Renaissance textile trade routes of Western Europe expanded my understanding about the complexity of economic networks as well as provided a first hand glimpse at the mass amounts of material goods exchanged each day.

Sightings of shipping containers traveling through the Panama Canal fueled research into the number of goods being transported through this waterway. Now able to facilitate 60 to 80 vessels through the canal each day, its latest expansion allows for larger freight ships carrying up to 14,000 shipping containers a piece, to enter the lock system (Long 2014). This suggests that up to 1,120,000 shipping containers filled with “stuff”, cross our oceans every twenty-four hours. By gaining a quick glimpse of this spectacle in motion, I began to imagine the shadows cast by ships on the waters below, the ongoing bilging and leaking of oil, and the shadows cast on the land once all of those packaged goods are disposed of.

This sighting also inspired looking into how far the typical imported or exported good might travel. Keeping in mind that in the “garment sector, production can be dispersed to many locations across and within countries [...] in search of cheaper/faster labour” (WIEGO 2017), I recognized that gathering information from garment tagging and packaging only provides surface information about the material content of objects, where they are made, where they were

packaged and where they are distributed from. However, this approach led to an expanded understanding of how long and wide shadows of manufacturing are if we're to consider the amount of natural resources, machines, and distances traveled in their production and distribution. To offer an example, it requires 2,700 litres of water and 250 grams of pesticides in the production of 1 cotton t-shirt. If we consider the machines involved in production of that shirt, the materials and fuel involved in both the manufacturing and production of a planting machine, crop harvesting machine, a hold buggy, module builder, a fleet of transport trucks, a cotton ginner, a gin press blending and cleaning machine, a final cleaning machine, a carting machine, a coiling machine, a drawing machine, a staging machine, a roving frame machine, a winding machine and endless manufacturing and distribution machines would need to be considered (Cottons Journey n.d.). This one example of a global manufacturing network implies that shadows of objects are larger than we could ever envision or calculate, reaffirming the difficulty in attempting to "over mine" a "thing" for its quantitative data. This analytic approach also enabled me to theorize about how long these shadows remain within the strata of our landscapes depending on the material content of the objects casting them.

Looking to the Renaissance as a time of scientific enlightenment, travel for an independent study in Florence, Italy, spurred research into the history of shadows in art history. Amidst viewing 14th and 15th century paintings and cartoons illustrating artists' new understanding of light and form, the immersion into an exemplary archive of the early beginnings of materialism enabled me to expand my conceptual understanding of shadows as traces of the past and traces or absences as shadows on the present.

Visits to gilded Florentine churches of the Renaissance provided evidence of the of material excess that arose in this area of the world, much in part to the burgeoning textile trade that was

starting to bind together disparate parts of the world and different facets of society. Historical reading about the region also provided insight into how interwoven church, economy and culture had become during these times (Fremantle 1992). This realization led to experimentations working with lace and informed my decision to focus on shadows of the global textile industry that still continues to expand its global networks and rates of production today (Morgan 2015).



Figure 5 (Left) Jill Price, *Stitching vintage lace to the shape of shadows of Florence Churches printed from Google Earth* (Photo by author)

Figure 6 (right) Jill Price, *Enlightened Shadows 2016 (Installation Shot)*, Lace, Window Panes, Glass Domes, Plaster Saints & Overhead Projector

Additional surveying of these sites expanded my conceptual understanding of shadows, with crumbling frescoes and stains upon the pages of illuminated manuscripts all becoming shadows on and of the past. Perhaps subconsciously remembering Derrida's reference to the "trace" as both an effect and a cause that simultaneously informs language historically and in the future (Derrida 1982, 13,14), texts written in Latin remained inaccessible in the shadows of antiquity and even individual letters began to present themselves as arrangements of shadowy dark figures, with each word serving as a shadow over the interpretation of the next, or the first letter and surrounding letters in a word serving as shadows over the pronunciation of letters in-between.

Traveling to important ports and production sites of the Western Europe textile trade in the late 1400's provided additional insight into the economic interconnectivity of the world during this time and also demanded reflection about the shadows of my own excess while discarding and accumulating "things" along the way.

Collecting Shadows

Beyond ironically commenting on Western ideals of consumptionism that persist because of our absence of knowledge or an individual's perception of something they lack (*Morgan 2015*), the collection and analysis of shadows was a necessary stage of the research as offered a clearer picture about the overwhelming number of things we possess and the number of durable or discardable objects thrown away.

Using indexical modes of documentation, such as photography, video, google earth, tracing and monoprinting, collection began with the recording of shadows in outdoor settings. Material Shadows 001 and Material Shadows 003 provide documentation of where photography and video were used to capture shadows of different plant material in situ. These recordings were



Figure 7 (Left) Material Shadows 001, unidentified flora on rice paper, 24" x 8' (photo provided by author)

Figure 8 (Right) Material Shadows 003, Ontario grasses on arches, 20" x 24" (video still provided by author)

followed by attempts to trace shadows during a video projection of this footage. Despite the speed of the video being reduced to one tenth of its normal rate, this exercise led to complete abstraction and fragmentation of the grass imagery, revealing how untraceable nature's rate of change is. Upon reflection, I viewed the altering of the video as one more example of how humans attempt to control or interfere with the complex state of nature.

Further reflection acknowledged this author and new technologies as part of our natural state, with ecological systems unable to keep up to the industrial technologies used to locate, extract and alter the earth's surface. Although dark, this realization supports post-human theories that suggest technologies, whether they be ideological, political, economic, social or mechanic, have surpassed human agency, globally operating beyond our control (*Bradotti 2013, 7*).

Other attempts to collect shadows through drawing occurred while seated beneath trees, whereat I attempted to trace and erase the shadows of moving leaves. *Material Traces 0001* is an observational drawing in which water- soluble graphite was used on both sides of frosted Mylar. Shifting around the tree as the sun shifted, shadows were shaded and traced when



Figure 9 Jill Price, *Material Traces 0001*, 2016, graphite, oil stick & gesso on Mylar

the sun came out and erased as the sun tucked behind clouds. As it began to rain, drawings of shadows bled out and merged with other outlined shadows, drawing attention to how material spreads, shifts and dissipates under certain circumstances. This chance occurrence led to the introduction of water into other processes used to record shadows beneath different textiles.

The collection of shadows in natural settings drew attention to the importance of recording static shadows if wanting to speak to the Anthropocene, a geographical epoch where shade becomes shadow. Inspired by Micah Lexier's *Versions*, installation 1, at Birch Contemporary in 2015, and as a self-reflexive examination of my role as a maker, miscellaneous ready-made objects within my studio were lit to facilitate the tracing of their shadows.



Figure 10 (Left) Micah Lexier, Versions, installation 1, 2015, detail (Photo Source: Birch Contemporary)



Figure 11 (Right) Jill Price, Material Shadows: Glue- Stick, 2016 (Photo provided by author)

The constant recording of shadows enabled analytic observation of where, when, why and how different light sources interact with different forms and surfaces. Shadows collected also provided insight into the changing scale, shape and movement of shadows. As with all

collections, it is the variations of objects that enable us to identify differences and similarities as well as offer insight into what is consistent, present or absent.

Assembling Shadows

To speak to the excess of global trade, personal consumption and being that materials and their shadows are assemblages in their own right, assemblage as a method was used to represent the material excess and interconnectivity of our landscapes.

Noted by Actor Network theorist John Law as a method of messiness that fittingly echoes the messiness of social science research and the multiple realities of our existence, assemblage is defined as both a noun and a verb, the latter being “a process of bundling, of assembling, [...] in which the elements put together [...] are constructed at least in part as they are entangled together” (Law 2004, 42). Law goes on to propose that the ‘method assemblage’ is “the enactment or crafting of a bundle of ramifying relations that generates presence, manifest absence and Otherness” (Law 2004, 42). Assemblage as a method also takes up the call from Karan Barad to re-evaluate how we place emphasis on language as meaning makers or documents (Barad 2007).

Early investigations of assembling included the illumination of different objects, at times arranging lighting apparatus to imply a reciprocity or an awareness between two actants. Through the exploratory repositioning of light sources, shadows cast at times resembled creatures or living monsters. This prompted researching the linguistic origins of materials instrumental in producing assembled shadows on the wall. By isolating these shadows from the objects casting them, it served to give agency to the shadows themselves. Due to the flattening and abstraction of materials through this process, each drawing or monoprint required

identification, eliciting a classification and labeling system to potentially allow for further analysis and contemplation of shadows.



Figure 12 (Left) Jill Price, *Material Shadow #PL0001*, 2015



Figure 13 (Middle) Jill Price, *Material Shadow #PL0001 isolated*



Figure 14 (right) Jill Price, *Vineaplasticus in Motion (video still)*, 2016

Temporarily embracing a more science fiction approach to OOO Theory as speculated by Ian Bogost in his book *Alien Phenomenology*, observations of materials interacting with light synthesized in relation to the material content from which shadows were cast inspired narratives about the agency of materials within our landscapes. Jane Bennet writings about the vibrancy of matter led to imagining how different shadows might behave. A lab installation entitled the *Umbrarium*, presented a shadow species entitled the *Vineaplasticus*. Although playful, anthropocentric characterizations of shadows based on political, social, environmental, economic and cultural truths were relinquished for two reasons, the first being that this approach continued to place humans back at the centre of philosophical thought. The emergence of very real and serious shadows also informed my decision to resist a lighter approach to the research material.

VINEAPLASTICUS



The **Vineaplasticus**, also known as the shy creeping plastic eater, was discovered during the age of the Anthropocene between the year 2000 and 2030 AD by MFA students attending OCADU in the northern hemisphere of the Americas.

Just one of many species found within the **UMBRA** genus, this elusive yet playful object was found amongst vine like plant forms once utilized as ground cover in large planters, manicured gardens, or to adorn the facades of different architecture in suburban and urban environments. Out of captivity, variations of the Vineaplasticus could be hunted down in wooded or jungle ecosystems, often seen twisting and climbing their way to the light.

Often seen as societal outcasts hiding in the dark crevices of culture's institutions and apparatus, once observed and understood, this simultaneously strong yet delicate form carries much meaning about the rhizomatic state of its ecology and interdependence with other entities.

Mundane in appearance throughout the day, if by chance encountered when exposed to dramatic light can be seen as intimidating, at times reaching nearly 10 feet in height. Also able to shrink to fractions of an inch, this umbraism exhibits exponential potential for creativity and adaptability.

When in a good mood the Vineaplasticus has been known to dance and play a game of peek-a-boo with those it comes in contact with. When grumpy, spectators will need to settle for its sarcastic mimicry.

Figure 15: Jill Price, *Vineaplasticus placard*, 2016

Archiving Shadows

To begin, shadows themselves are archives that record and store data waiting to be explored. By choosing to archive shadows, it serves to point to the absurdity of material excess I continue to witness and consume, but also aids in revealing the agency of different shadows. Pointing back to the metaphor of land as archive in which our landscapes have become museums of “consumptionism”, the archive as a method demanded that I begin to identify and classify shadows so that further analysis could take place. At first drawn to identify a hierarchy or value system of shadows, I quickly realized that values and ethics come from a place of subjectivity and cultural context. In order to avoid judgement of others’ excess or material practices, the exercise of archiving shadows was reduced to developing a system of drawing shadows using different variations of graphite and ink based on the saturation of shadows cast and how different materials are intended to break down over time (See Index 1).

While writing about the outcomes of this research I will attempt to clarify when the methods of locating, collecting, assembling or archiving were integral to the production of specific art pieces.

3.3 Outcomes

The exhibition *Land as Archive* presents a collection of shadows generated through the indexing and assembling of different materials to draw out narratives about the environmental, political, economic and social shadows enmeshed within material excess and networks of global trade. Working with textiles taken from my own closets or purchased from nearby second hand stores, the exhibit utilizes paper and gallery surfaces as a metaphor for the land upon which we leave traces of our material extraction, production and discard. Beyond material investigations associated with textiles, *Land as Archive* also archives shadows from a variety of manufactured materials personally purchased and discarded while travelling early textile trade routes of the Renaissance in Western Europe during the summer of 2017.

Presented using museological devices in order to extend the metaphor of the archive, *Land as Archive* utilizes presentation and communication devices found within a museum. Upon entering the exhibition, a gift shop of shadows sits opposite of the reception desk. Motion triggered, shadows of different mass produced textiles sold in museum gift shops are projected onto the wall. The commodification of shadows aims to draw attention to the ideological institutions of capitalism and consumerism that first took hold with industrial revolution (McDonough and Braungart 2002, 18,19) as well as point to the absurdity of how experiences are commodified through the mass production of branded goods that turn humans into profitable and moving marketing devices.

Although aware of how galleries and museums must stretch mandates to ensure fiscal survival, the gift shop quietly acknowledges that I am immersed within a system that must succumb to the selling of mass produced items for survival. Turning plinths into light boxes, shadows of a sweatshirt, t-shirt and windbreaker, articles of clothing often found in attraction gift

stores, are projected directly onto the wall. Motion-sensored, the gift shop always manages to produce more material for consumption upon the arrival of new audiences.



Figure 16: Jill Price, *Land as Archive Gift Shop* Installation Shot at YYZ Artists' Outlet, Toronto (Photo by author)

Presented in a series of free standing and wall mounted vitrines are a selection of archived shadows exploring different types of shadows within our landscapes. The first vitrine entitled *Discarded Umbras* archive shadows of my personal material consumption while on an international term of study from April to July of 2017. During travels through Spain, France and Italy I traced the shadows of disposable materials consequently acquired through the purchase of things needed or desired. Whether it was a Kleenex or packaging from an individually wrapped tea bag, I attempted to crumple up items to reduce the shadows they would cast below once thrown away. Some materials were more malleable than others, but plastic items quickly unfolded once my hand was opened. Using a sketchbook, I began to trace each item for the

shadow beneath them, labelling them with their function, material, brand and any other identifying information that would provide context about the shadows being cast. As can be expected, this exercise became difficult to keep up to, but it quickly began to demonstrate



Figure 17 Discarded, 2017, installation shot YYZ Artists' Outlet, Toronto (Photo by author)

the statistic that ninety percent of all durable goods produced are immediately disposable after one use (McDonough and Braungart 2002, 27). The data collected also enabled analysis and reflection about personal habits of consumption, encouraged new ways of purchasing goods and forced me to take note of how much I was throwing away.

Displaced is a collection of drawings that arose from having an opportunity to send belongings home that were no longer necessary. Upon selecting clothes and shoes to eliminate, each item was placed on a sketchbook page and traced for the shadow that lied beneath it as well

as the shadows cast from different angles beside it. Once removed from the paper, the contour drawings resembled topographical maps that record the altitude of geographical landforms, reminding me that needs and wants are dependent on one's context and constantly in a state of transformation. After shading in the different intensities of shadows, drawings are folded into 3D forms based on the different delineations of space, visualizing how the extraction or displacement of materials also alters the profile of our landscapes. Placed in individual Plexiglass vitrines, the cast shadows of the containers demonstrate how material packaging dramatically extends the environmental footprint of both organic and non-organic goods.



Figure 18: (Left) Jill Price, *Displaced Shadow* in progress (Photo by author)

Figure 19: Jill Price, *Displaced*, 2017, tunic, ankle sock, long sleeved shirt, graphite, ink on Stonehenge in Plexiglass (Photo by author)

The third vitrine is filled with printed materials collected while travelling to important sites of the early Renaissance textile trade in Western Europe. Entitled *Collected*, these artefacts perpetuate the material excess exemplified by much of the architecture and collections of things they document. Serving as a document for how much I accumulated as part of my research

abroad, the printed materials' weight became heavy shadows within my luggage. Recalling an encounter with illuminated manuscripts in Michelangelo's Library in Florence, collected texts are blocked out, brought forward, buried, cut away or folded to acknowledge the limited perspectives informing these texts as well as how my own positioning within the research casts shadows on how materials were collected or left behind. In addition, *Collected* demanded reflection on the environmental impact of tourism, international trade and international art shows such as Biennale's, all while offering physical proof of how much of what we consume is designed to be disposed of and yet not designed to be disposable. In countries like Canada and the United States, such "cradle to grave" designs equate to over ninety percent of all manufactured goods, speaking to both the permanence and monumental amounts of material shadows headed for water and land each year (McDonough and Braungart 2002, 27).

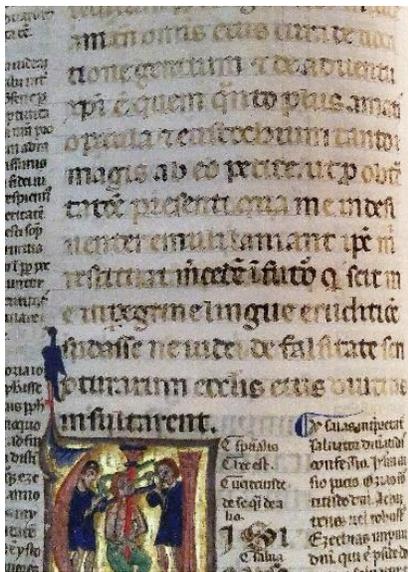


Figure 20: (Left) Illuminated Manuscript (detail), Michelangelo Library, Florence (Photo by author)

Figure 21: (Right) *Collected Shadows*, 2017, installation shot (Photo by author)

Presented in a series of shadow frames is another series of indexical drawings entitled *Material Shadows*. These hand touched monotypes document the process of dipping reclaimed textiles in a charcoal bath and then laying them on or between paper. This technique gave agency to the textiles within the drawing process, provided access to shadows that lay below the materials, offered visual data about the absorbency and texture of different fabrics and also enabled me to find new value in items headed for donation or the dump.

Upon analysis of the double sided prints I was taken aback by how many of the diptychs resembled anthropogenic formations. Pinned like specimens, for me these drawings illustrate how humans, ‘things’ and land are materially interlaced. Upon additional inspection, the



Figure 22: (Right) Jill Price, *Material Shadow 0001*, 2016, linen napkin, charcoal & graphite on Stonehenge

Monotypes contained shallow impressions, acknowledging the paper's agency in the process. Small indentions were used to guide the starting and stopping of shading in these surface shadows. Once shaded with graphite, drawn patterns revealed networks of visual data. While juxtaposing these drawings beside early plaster casts, a similar aesthetic was detected despite different materials and methods used. At this moment it became clear that all durable materials of today are the land of the future. In order to address this realization within the work, I acknowledged the use of materials used in my growing collection of shadows by cutting and folding paper drawings to take on three-dimensional form so they too cast shadows. By placing some of the paper *Material Shadows* beside the plaster *Earth Shadows* in the exhibition *Land as Archive*, I aimed to illustrate how smaller increments of matter connect all things.

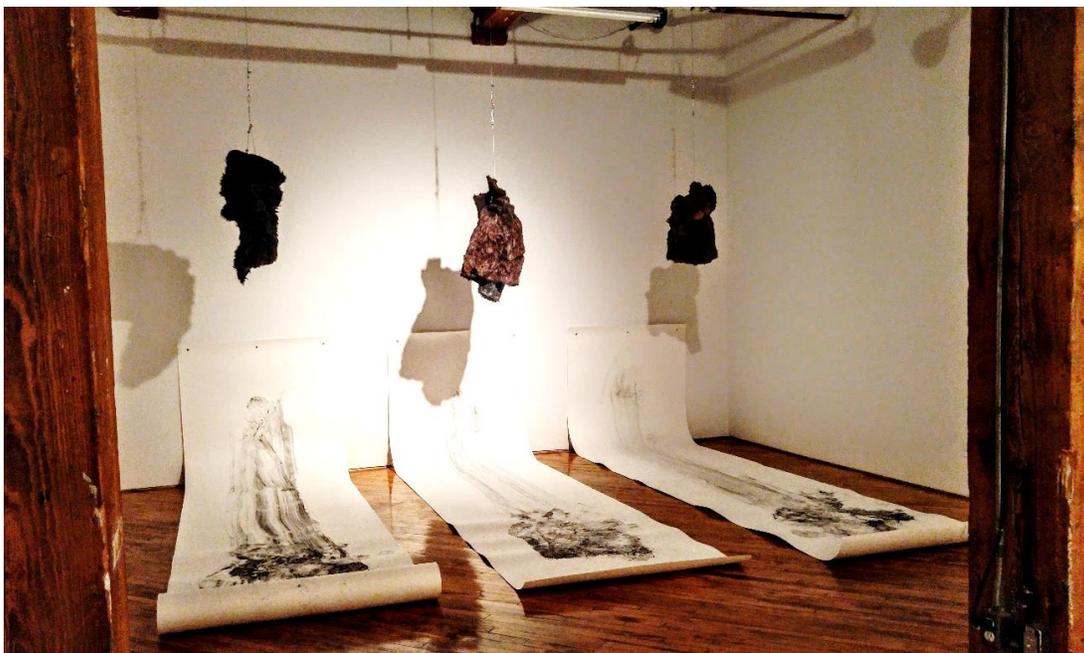


Figure 23: Jill Price, *Earth Shadows & Material Shadows*, Graphite treated plaster casts and paper monotypes (Photo by author)

The act of using textiles as drawing tools continued upon the discovery of an old fur coat. Very aware of how humans' first textile would powerfully speak to the devastating affects of the

fur trade on indigenous populations and the ecological balance across North America, fur seemed like the perfect drawing tool to visualize how materials and their shadows migrate, shift, seep, and affecting ecologies way beyond their time or sites of origin.

In order to speak to the monumental impact of the Trans-Atlantic fur trade on the Americas, the scale of the work was increased. Placing large rolls of paper on the floor, fur was printed by pounding my fists to beat out the liquid drawing medium from the dense and absorbent garments before struggling to push or drag the heavy masses of fur to the end of the paper. At first using a rabbit garment, damaged beaver and racoon coats were also printed to represent the types of fur sought after during the fur trade. Presented on the floor, the splatter, scale, and length of these drawings visualize the violent force of the fur trade and other colonial practices as settlers moved across landscapes, a “brute force” that McDonough and Braungart claim is very much still employed by industries today (McDonough and Braungart 2002, 30-35).



*Figure 24 Jill Price, Material Shadows #008, #009 & #010, 2017
raccoon, beaver, rabbit, charcoal and graphite on Stonehenge (Photo provided by author)*

Two large assemblages entitled *Earth Shadow #025* and *Tightly Stitched* are also placed on the floor within *Land as Archive* as a way of uniting the exhibition space of the larger gallery so as to visualize how interconnected and interdependent our ecologies are.

Adapted from Canadian artist Aganetha Dyck's artwork *Close Knit, 1976-81, Tightly Stitched* is constructed from white baby onesies collected from local sally-anns. Manufactured mostly in India, Korea, China, Bangladesh, Turkey, and England, the onesies were deconstructed, dislocated and reassembled by sewing together similar lengths of fabric. To draw attention to the interior shadows of things, the reconfigured fabric was stiffened to help maintain conical shapes once filled by arms, necks and legs. Approximately sixteen feet in length when unravelled, once stitched together the spectacle of their quintessential cuteness began to fade into abstractness and morbidity. Placed in a mound within the gallery, the abundance and absence of dismembered bodies also resembles a grave, simultaneously generating narratives about over-population, child mortality and even child labour. By displaying *Tightly Stitched* on the floor and knowing these objects crossed oceans, I read their physical transformation as dead coral, the first sign an ecological system is in danger. Together, these readings point to how humans must be considered when speaking of ecology, but also to how all organic or inorganic material has a role to play in sustaining ecosystems. The work also echoes the build up of waste casting shadows both on the ocean floors and atop land. What was unexpected was how the cast shadows of the organic materials within *Tightly Stitched* appeared architectural in form, reiterating how discarded materials have become the unsanctioned architects of earth's geography and geology, but also speaking to the rigidity, inhumanity and impenetrable nature of global economic networks.



Figure 25: Aganetha Dyck, *Close Knit*, 1976-81, Collection of Canada Council Art Bank (Photo: Martin Lipman)

Figure 26: Jill Price, *Tightly Stitched*, 2017 (Photo by author)

The second large assemblage in *Land as Archive* is a result of returning to the land with textile “goods” headed for disposal. Comprised of 15lbs of textile waste cut down and processed in a paper beater over a two-month period, *Earth Shadow #025* is a large paper cast of a crack in the earth. The material content represents the average number of textiles thrown away by the average Canadian each year. By casting a crack, a characteristic often associated with dry land, the intent is to draw attention to the amount of water required in the production and in this case the re-processing of textiles. Data collected during the process confirmed how recycling processes often require as many natural resources as the production of new goods (McDonough and Braungart 2002, 50). In this case, the creation of the sculptural pulp required 750 litres of water and 90 hours of electricity. Further reflection on the process led to the identification of the plaster mold as the shadow of the finished paper cast. By acknowledging the stages of production, *Earth Shadow #025* is also emblematic of how we only ever see 5% of the materials required in the manufacturing of a product (McDonough and Braungart 2002, 28).



Figure 27: (Left) Fiona Pegg & Jill Price on site creating plaster mould of a crack in the earth, King, Ontario (Photo by Liz Menard)

Figure 28: (Right) Paper cast of plaster mould made from recycled textiles (Photo by author)

Rounding out the show are two small sculptures informed by social and environmental data.

“Sewing Seeds” is an intimate work inspired by stains observed on liturgical manuscripts. This small embroidered art work speaks of the horrific rate of farmer suicide in India. Often affiliated with the production of cotton, India’s rate of suicide has become part of the vicious cycle of seed selling, crop production, pesticide use, soil contamination, illness and land confiscation attributed to companies like Monsanto (Morgan 2015). Within *Cradle to Cradle*, McDonough and Braungart explain how the “brute force” applied in “artificially” maintaining agricultural production, specifically found within monoculture settings, depletes soil of its nutrients, saturates the environment with carcinogens that in turn lead to chemical run-offs to neighbouring communities, creating inhabitable places for anything to live. These eco-friendly engineers and architects go on to suggest that like human trauma, environmental strife also takes centuries to repair (McDonough and Braungart 2002, 34-37).

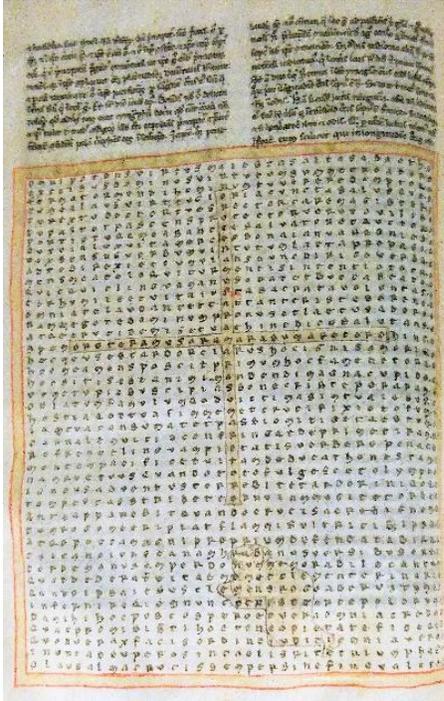


Figure 29: (Left): Stained Illuminated Manuscript from Florence Italy (Photo by author)



Figure 30: (Right): Jill Price, *Sewing Seeds*, 2017, black thread, chai tea, reclaimed fabric napkin & embroidery hoop (Photo by author)

Displayed as a work in progress *Sewing Seeds*, sets out to embroider 17,520 stitches into a table linen as a way of commemorating the average number of farmers in India that take their life each year. Using black cotton thread, each stitch is placed closely beside the next to signify how ecologies are tightly linked. Working in and outside of a chai tea stain points to how the agency of “things” is not limited to the initial site of intra-action and signifies the stains on humanity that lurk beyond the spectacle of material culture. Using a fabric napkin as the substrate is meant to reference how we are consuming, even ingesting, human and environmental trauma. Left unfinished, the intent is to visualize that there is no end in sight for the trauma affecting families of India or for those living and working in less environmentally regulated countries.

The final work in the *Land as Archive* exhibition arose from imagining what a real shadow looks like after inquiries into the biodegradability of different materials and a new understanding

of how shadows attached and below textiles have different time frames of ephemerality. Entitled *Black Strata*, this soft sculpture is constructed from deconstructed black leather pants and serves as a speculative model of a shadow that last 50 years, the life span of chemically dyed and tanned leather. Using the shape of a watch strap to allude to the passing of time, strips of leather were dipped in a charcoal bath and then pressed onto damp paper to allow for the dye to seep. This process assists in visualizing how shadows become as “lively” (Bennett 2010) as the toxic materials from which they are cast, spreading, seeping and diving beyond the depths and scopes of our vision. The paper prints were then used as templates for the next set of leather strips to be cut until the sculpture consisted of 50 layers. Once assembled the work began to resemble a spine or exoskeleton support, again pointing back to the interconnection of human and non-human matter.



Figure 31: (Left) Jill Price, *Black Strata*, 2017, installation shot YYZ Gallery, Toronto, (Photo by author)



Figure 32: (Right) Jill Price, *Black Strata*, 2017 (detail), reclaimed leather pants and wire clothes hanger, 12" x 18" (Photo by author)

Chapter 4: Summary, Implications, Future Research and Conclusion

To review, *Land as Archive* is an interdisciplinary body of research, which reflects an intensive journey into the realm of Object Oriented Ontology where both the immaterial and material are shadows that have agency. Combining studio practice, museology and environmentalism, I explore what might be considered a shadow while examining ecological concerns of the Anthropocene. By speculating seen and unseen shadows of “things” are a way of predetermining traces to be left atop and below our landscapes in the future, this practice-led and self-reflexive inquiry unveils dark realities behind the spectacle of material culture, consumptionism and the global networks of design, production, exchange and disposal.

Focusing on personal excess and the environmental, social and psychological shadows of the textile industry, travel, collecting, assembling and archiving shadows are integral methods used in a material complicit methodology to arrive at a discursive body of work and rhizomatic research process. Following shadows has led to a deep understanding about the origins of material excess and consumptionism. The process of recording shadows enables the evaluation of shadows produced from different materials, which in turn presents opportunities to develop a system for the classification and evaluation of shadows. The identification and archiving of shadows furthers my curiosity about how we might begin to estimate or envision what a real shadow looks like if we consider them as intense assemblages layered with geological, geographical, biological, personal, cultural, spiritual, political and economic data. The exercise of carrying material shadows for three-and-a-half months led to the realization that excess is a luxury of political and economic stability. Additionally, working with and allowing shadows agency within the creative process, led to the production of additional abstract data, pointing to

the importance of context and perspective when drawing out hidden narratives.

My initial research question, “How do shadows serve as material that can provide data about the excess and affect of material goods”, was immediately addressed by locating, collecting, assembling and archiving of shadows. The costs associated with travel, the time and technologies used in recording shadows, the acquisition of materials needed to assemble shadows and the luxury of existing in an environment that enables the analysis and archiving of shadows, all point to the privilege and excess required to conduct this research. In acknowledging and working with my own excess, I have come to the position that it is only because I reside in a developed Western country and possess an excess of material that I am in a position to see the excess, research it, comment on it and in this case make more of it.

Beyond the obvious excess and privilege attached to the pursuit of higher education, by recording and archiving shadows of material goods I had the opportunity to take stock of the necessary and unnecessary items in my life. Seeming indulgent at first, analyzing one’s own shadows of consumption offered insight into personal habits, addictions or general excess of goods. This exercise worked to inform future buying and recycling practices, which in the end has the potential to improve one’s bank balance, waistline or other modes of physical, mental and social health. Another interesting dynamic that arose in indexing my excess was the search for more materials that could be discarded as part of the drawing process. This outlines how we often accumulate goods out of a place other than need. The shadows of my excess also offers a glimpse into the excess of materials being produced and consumed on a global scale.

I also observed how the unseen shadows of goods or materials are harsher, with the rich black underbelly drawings creating an immediate tension with subtler shadows cast. For me it is these black shadows that visualize how in the dark we are about the permanence of shadows produced.

Displaced shadow drawings also reminded me of how shadows assemble from the extraction of material, ultimately leading to different depths and intensity of shadows in the earth's surface.

Indexical drawing methods such as tracing and monoprints also worked to quantitatively map the surface area directly impacted by cast shadows, offering qualitative data about how different materials cast shadows differently. For example, working with shadows of fur demonstrated how shadows can be socially, politically and psychologically charged, able to draw up histories, open wounds and visualize the trauma experienced by generations of people and wildlife.

Tracing shadows while moving around an object enabled me to capture layers of shadows overlapping one another. These drawings reveal intersections of different and various actants at work, teaching us how shadows are often multiple and rearrange themselves differently to produce different data with the repositioning of the audience. These drawings also remind me of how many different humans are interwoven into the systems and networks contributing to the assemblage of a thing. This acknowledgement of the anthropogenic cues us to consider workers and their context when discussing the notion of excess, imposing values or passing judgement upon actors caught up in the systems of production or consumption.

Monotypes in the exhibition provided qualitative data. Impressions of different materials on paper produced different effects, offering data about absorption rates that often correlated with the water required during the front end production of fibres, their biodegradability and therefore the longevity of the attached shadows. Assemblages within the exhibition create shadows that demonstrate the interconnectivity and hidden layers of data.

Most importantly, shadows point to the abstract and fleeting nature of data. Often taken out of context or produced within controlled or curated environments, like the laboratory as discussed by Karen Barad (Barad 2007), neither shadows, nor data are able to communicate the

messiness of our existence. This suggests that the best data shadows can offer is that of the unknown. Implications for existing or creating in the unknown might find us in the vicinity of post-colonial discourse and practices. Although over-simplified, this suggests we embrace a time of unsettling in which hierarchies of knowledge and power are disrupted in order to challenge assumptions about our existence. However, knowing that the earth struggles to keep up to the ambitions and innovation of human-centric enterprises, the much needed reduction of production urgently requires a shift from a top down mentality to a bottom up mindset, with the bottom being the earth itself. This type of design is bound to generate innovation and commerce while simultaneously working for something much bigger than oneself.

To address the question “how can one record the agency of shadows through drawing and sculpture”, I would start by arguing that each art piece created is a result of the agency and affect shadows have had within my research. Additionally, drawing and assembling shadows in *Land as Archive* led to different types of philosophical, social, political and environmental data that helped to arrive at the conclusion that shadows are actants that actually prevent the expected rate of biodegradability of materials and serve as the perfect metaphor to visualize the different political, social, economic, environmental, spiritual and psychological strife that haunts us.

Environmentally, the *Discarded* shadow drawings systematically visualize the different agencies of shadows within our landfills, with plastics represented as the darkest agents, and the sheer excess of accumulation preventing the decomposition of all materials. *Earth Shadow #25* offers an example of how an object works as a shadow in that it has the agency to hide or disguise the other 95% of materials required in its manufacturing.

Drawings and sculptures within *Land as Archive* also remind us of how shadows have the agency to create form and space in two, three-and four dimensional planes, incessantly adapting

to their environment by fitting into, expanding beyond or migrating from the most intimate or monumental spaces. For example, the volume of shadows found below, besides, within the folds and cast upon the wall from the textile assemblage *Tightly Stitched*, reiterates how shadows have agency in the construction of forms and space. This work also symbolically visualizes how shadows have agency within, around and way beyond a material network such as global trade.

Multiplicitous by nature, the *Material Shadow* drawings reveal how a shadow's agency is simultaneously tied to the smallest increments of matter, an object's material, the object itself, as well as histories of materials and objects. The *Displaced* series of drawings record how shadows have different agency depending on the context in which they are experienced or viewed.

Some drawings and sculptures even enabled speculation about the behaviour and impact of shadows. For example, *Black Strata* worked with reclaimed leather to ponder and visualize the longevity of a shadow's agency and the abstract embroidered drawings of *Sewing Seeds* and *Dark Threads* qualitatively record how political and economic shadows often go unseen, but have enough agency to cause social and psychological trauma.

In attempting to imagine or calculate what a real shadow might look like, many art pieces pictorialized different facets of a shadow. Folded paper works remind us about the three dimensionality of shadows and that all materials impact the environment. Shaded monotypes also reveal the complexity and layers of a shadow. The large scale fur drawings dramatically communicate how shadows migrate beyond time and space and are much bigger and more lasting than we can see. The sculpture *Black Strata* uses the decomposition rate of leather to mathematically speculate about a shadow's depth and *Sewing Seeds* suggests that social shadows appear as a stain on humanity. Other works such as the plaster *Earth Shadows*, *Earth Shadow #25* and *Collected* all propose that shadows are the objects themselves, with attached

umbras, penumbras, antumbras and silhouettes being their ever-changing outer edges.

Although arriving at a conceptual understanding of how much of an object's shadow goes unseen, overall, *Land as Archive* confirmed that shadows, whether physical or psychological are constantly in a state of transformation and that to pictorialize the entirety of their complexity, monumentality, shape or intensity is unfeasible. However, if inclined, one could begin to identify and compartmentalize the innumerable systems that feed larger networks of their causation so as to arrive at a value system which charts the performance or affect of different types of actants or agents within economic networks, with humans actants reducing shadows of machines and reclaimed materials reducing shadows of raw materials.

In moving forward, conceptualization has begun for a shadow puppet animation that will aim to illustrate the monumentality of an object's shadow due to industrialized processes and global networks of trade. An online book of shadow creatures based on the studio exploration *Vineaplasticus* is also in development. By exploring filmic devices and virtual modes of dissemination, I hope to reach broader audiences interested in becoming conscious producers, consumers, users and recyclers. Other studio based projects may revisit the challenge to record the agency of shadows by using other forms of documentation and measurement to observe how materials behave in and outside a shadow's vicinity. These investigations would be enriched by developing skills in working with new media and reading sociological and scientific research about how ecological, economic, political or cultural shadows have impacted people in the past.

In parallel, future processes of creating, researching and exhibiting will strive to align with McDonough's and Braungart's plea for society to return to local economies that celebrate human crafted goods, embrace an emerging repair culture, understand the benefits of minimalism and morally demand that governments, institutions and industry become proactive and pre-emptive

agents in addressing the preservation of our landscapes, oceans and atmosphere (McDonough and Braungart 2002). In returning to my local economy, I will take up the examination of shadows cast upon Canadian soil. With hopes of doing collaborative research with indigenous historians, philosophers and artists, the goal is to further post-colonial, decolonization and reconciliation studies while delving deeper into the shadows of colonization that were disguised behind the blankets of wool, pelts of fur and holy robes during the Trans-Atlantic fur trade.

Perhaps most urgent is researching different types of prescriptive art practices (Heartney 2014). By locating and aligning with environmental organizations, industries, governments and other artists working to repair, slow or prevent further environmental damage to the planet, I hope to share environmental innovation as a way to ward off notions of hopelessness that looms above the head of humanity. The ultimate goal is to transfer my interdisciplinary knowledge to transdisciplinary applications so that shadows could serve as a tool for eco-conscious design. The knowledge that shadows inhibit the breakdown of materials layered in the strata of detritus we produce suggests a need for reassessment of existing waste management systems to arrive at more effective strategies for handling personal and industrial waste. On the front end of design, the knowledge that shadows have both physical and psychological agencies could facilitate an expansion of existing methodologies to assist eco-conscious enterprises in utilizing a variety of quantitative methods to determine the quality of their product. McDonough and Braungart already point to a design methodology that puts ecology at the top of a pyramid, with equity and economy filling out the bottom two corners (McDonough and Braungart 2002, 149). This in turn could evolve into a formalized communication system for consumers that offer information about products they are about to consume, with different shades of grey revealing where the product has strong or weak performance within the cradle to cradle chain. There are already

examples of material transparency labeling in the EU with REACH regulations requiring “clothing manufacturers and importers identify and quantify the chemicals used in their products” and when necessary “inform consumers about potentially hazardous chemicals” (Claudio, *Waste Couture: Environmental Impact of the Clothing Industry* 2007).

In Conclusion, as multiplicitous as the light sources that cast them, the materials that inform them, the surfaces that reveal them and the people that encounter them, the most profound discovery arrived at through this research is an understanding that shadows are not as fleeting as we have been led to think. Experimental approaches to mark making in conjunction with research about decomposition rates of materials led to enlightenment about the prolonged affect of objects and their shadows atop landscapes. Even more important was discovering scientists and philosophers who acknowledge how inhumane political and economic systems generate social and psychological shadows that linger across multiples generations (Shulevitz 2014).

To end, it is upon the acquisition of both tacit and scientific knowledge during *Land as Archive* research that I offer up the shadow as a metaphor for developing the unknown as a research methodology. Shifting, rotating, seeping, changing, layered and intense, shadows demand that we look at the history or causality of a thing, determine its variables, consider the context, explore it from a range of perspectives, as well as locate oneself in the observance of that thing. In their abstractness, shadows also encourage conceptual exploration, a variety of readings, a collaboration of actants and constant questioning that ultimately demands one to acknowledge outcomes as only one of many findings or conclusions to be arrived at.

It is this heightened awareness about the nature and agency of shadows which confirms their “thingness”, an therefore warrant serious consideration as a maker and at all levels of design.

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