Towards a New Materialist Environmental Art Education

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DEDICATIONS and ACKNOWLEDGEMENTS

I dedicate this thesis to the Earl Bales Park Ravine (located on the traditional territory of many

Indigenous nations including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the

Haudenosaunee and the Wendat peoples and now home to many diverse First Nations, Inuit and

Métis peoples) and the train-tracks of Tiohtiá:ke/Montréal (located on the traditional territory of

many Indigenous people such as the Kanien'kehà:ka of the Haudenosaunee Confederacy, Huron/

Wendat, Abenaki and Anishinaabeg) for these are the giving environmental communities that

have made my interactions with environmental art-making possible.

ABSTRACT

This study aims to challenge the anthropocentric roots of contemporary art education (AE) through looking towards a new material environmental art education (EAE). By putting arts-informed auto-ethnography and open-ended interviews to work, this study aims to answer the following questions (a) *how can environmental art-making lead to material re-centering?*, *(b) what may the benefit of environmental art-making be for makers?*, and *(c) what stands in the way of achieving a new material environmental art education?* Guided by participatory action research and arts-based research, this study acts in conversation with both art educators and self. Through employing arts-based auto-ethnography and open-ended interviews, this study locates *(1) the challenges that lay in the way of bringing environmental art-making into art education (AE) and (2) the profound implications new material practices have in encouraging makers to develop skills that are essential for a changing world.* The auto-ethnographic research into my experiences with ecological art-making emerges as a critical point of this research by revealing the process behind turning to more biocentric ways of being through art-making. Through employing a diffractive analysis this study acts as an assemblage - amplifying a range of perspectives and attitudes regarding possibilities for enacting new materialist practices through environmental art-making. This study offers insight into the profound implications of new material practices for environmental art education and acts as a foundation for further exploration into specific challenges and possibilities within EAE.

Cette étude remet en question les racines anthropocentriques de l'éducation artistique contemporaine (EA) à travers un schéma néo-matérialiste de l'éducation à l'art environnementale (EAE). En mettant en œuvre des entretiens ouverts et une auto-ethnographie axée sur les arts, cette étude vise à répondre aux questions suivantes : *(a) comment la création artistique environnementale conduit-elle à un recentrage sur la matérialité? (b) quels avantages la création artistique environnementale offre-t-elle aux apprenants? et (c) qu'est-ce qui fait obstacle à la réalisation d'une éducation à l'art environnementale néo-matérialiste?* Guidée par la recherche-action participative et la recherche axée sur les arts, cette étude met également en dialogue les éducateurs de l'art et mes propres recherches. En utilisant comme grille d'analyse un schéma auto-ethnographique axé sur les arts et des entretiens ouverts, cette étude arrive à repérer: *(1) les défis qui empêchent l'introduction des pratiques artistiques environnementales dans l'éducation artistique (AE) et (2) les implications profondes des nouvelles pratiques matérialistes pour encourager les apprenants à développer des compétences essentielles dans un monde en mutation.* La recherche auto-ethnographique sur mes expériences de création d'art écologique se révèle être point critique de cette recherche en démontrant que le processus qui peut conduire à des manières d'être plus biocentriques est la création artistique elle-même. En employant une analyse diffractive, cette étude se compose en forme d'agencement qui diversifie et multiplie des perspectives et des attitudes concernant les possibilités de mettre en œuvre de nouvelles pratiques matérialistes par le biais de l'art environnemental. Cette étude offre un aperçu des implications profondes des nouvelles pratiques matérialistes pour l'éducation à l'art environnementale et sert de base à une exploration plus approfondie des défis et des possibilités spécifiques de l'EAE.

CONTENTS

1: Introduction

1.1: Background

As a child, I loved the junk drawer. I was disheartened to notice that this was a place where things went to 'die'. Things would go in and rarely would come out. I took matters into my own hands by spending afternoons rifling through the drawer and fashioning living objects out of 'dead' ones. I made musical instruments by connecting every nob in the kitchen with elastic bands and carefully constructed balls of tape that could never quite bounce. My early life was also coloured with memories of mixing plastic paint with plastic brushes onto canvas. Since these were the materials categorized as 'artistic', I continued to create artwork using acrylic and oil paints on canvas until the end of my BFA. At the end of this degree, I recognized the materials I was using were not good teachers, not only because of their toxicity but because of what they communicated. They taught me that abundance did not necessitate connection. They taught me that excess should be an expectation. They taught me to make art in a similar way our production system makes goods - quick, and a lot of it. They didn't shed any light on the complex relations between material and culture - but the junk drawer did. I began thinking more about the junk drawer and I wondered, if our materials are our teachers, and if so, what do they teach us? How do they imbue the world with meaning and connection? Moreover, what lessons does the junk drawer have that traditional art supplies lack?

1.2: Significance of the Study

The devastating impacts of the environmental crisis means that each field must be held to close scrutiny. It is argued that the current environmental crisis is first a crisis of (colonial) consciousness and therefore, it is important to not only scrutinize over material residues but also

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consider the attitudes that have led and continue to lead to environmental disaster (Heise, 2008,

Kimmerer, 2016, Liboiron, 2020). This study aims to locate ways in which a shift towards eco-

logical ways of being and acting can be enabled through the use of environmental art materials.

The effects of the environmental crisis and recent efforts towards an ecological art education

(Timm-Bottos, 2017, Ravisankar 2019, Ylirisku, 2020) calls for an immediate action to further

investigate the pedagogical potential of environmental art materials. The significance and origi-

nality of this research lies in its locating of (1) the pedagogical potential of environmental art

materials, (2) distinct challenges and possibilities within the field of AE and (3) the connection

between environmental art-making and the development of ecologically responsible ways be-

coming-with.

1.3: Research Goals

Art education has the power to provoke social change and imbue the material world with

meaning (Hicks & King, 2007). Paradoxically, the materials used in artistic creation lead to fur-

ther environmental destruction (Davis, 2015). The contradiction lies in the fact that art education

has the immense power to alter how we see and relate to the environment, yet the materials we

use to deliver arts curricula support harmful industries and cultures of consumption (Hicks,

2007). As traditional art materials are created through these industries, they can ideologically

perpetuate the same theoretical orientations that fuel these harmful practices (Davis, 2012,

Hawkins 2019, Todd, 2014). Often, industrial practices are driven by the anthropocentric idea

that humans are separate from nature; this notion is one that objectifies ecology, turning 'nature'

into an exploitable 'other' (Braidotti, 2013, Liboiron, 2018). Once 'other' living beings are sepa-

rated from the 'humanity' of the human, they can be dislocated from their feeling ability, anima-

cy, and agency. This makes their exploitation for anthropogenic resources not only possible, but their key defining factor. Martusewicz (2013) explains how the result of this process, is the erasure of 'other' ways of knowing in favour of anthropocentric colonial logic, which is exploitive, and hyper-separated in its way of thinking and acting. Due to this erasure of knowledge, harmful industrial practices and the logic produced by them exist in a continuous feedback loop. While a single study cannot end this deeply embedded cycle, the aim of this thesis is to disrupt this feedback loop in some small way that is particular to the instance of art education - as both a scholarly discipline and an educational one. This study aims to do this by investigating what happens when we turn away from anthropocentric material practices and towards more biocentric ways of knowing, making, and being through environmental art-making. By employing arts-based auto-ethnography and engaging in interviews with art educators, this study aims to uncover (1) the challenges posed by anthropocentrism in AE, (2) the pedagogical potential environmental art-making has in unearthing networked connections, (3) new discoveries that can be made through tuning into more-than-human ways of knowing.

1.4: Positionality

As epistemological and ontological beliefs influence research, it is crucial for me to lay out my positionality and explore how it may impact this study (Scharp and Thomas, 2019). Firstly, as this study investigates possibilities within Art Education, it is necessary to recognize that my own experience of AE - both as an educator and as a student - is limited to my positionality as a white-settler in a predominantly settler education system. This has also impacted my path as an artist as I was taught to produce art according to a Western-colonial framework. Throughout this work, I will be investigating a Western-colonial AE, not out of a preference, but out of the

confines of my own positionality. As this research aims to investigate material agency, it is important to mention my Jewish heritage and faith and how these impacted my understanding of material animacy. Often, in Judaism, it is believed that every creation on earth has an animate soul (nefesh) and is self-aware of its existence. Important to mention is also Judaism's belief in an embodied soul, meaning the soul and body are seen as entangled and inseparable. Therefore, coming into this research study, I was already convinced of the animacy of material 'others' and the entanglement of subject/object. As this study aims to reunite categorical divides, it is necessary to outline how my own experiences as a non-binary queer person have impacted my relationships to the distinguished categories of nature/culture. My perspectives on the divide between human/environment/material are undoubtedly influenced by my queer positionality as the 'queering' of ecology often refers to the removal of Western colonial binaries (Arons, 2012, Sbicca, 2012). Moreover, living in a body deemed as 'unnatural' when held against the heterosexist ideas of 'nature' led me to personally reject ideas of duality and human essentialism - both of which are largely critiqued in this work. Lastly, my experiences with (dis)ability have forced me to reconceptualize 'nature' and how one experiences 'nature'. Unable to escape the toxic confines of the city with ease, I have broadened the category of 'nature' to include the micro-ecologies thriving in my own apartment and on nearby traintracks. Environmental art-making has helped make this (re)conceptualization possible.

1.5: Posthumanism and New Materialism

Due to the complex nature of theory in the social sciences (Alexander, 1987), this study contains several theoretical orientations and there are even complex links between these. It would be impossible to list every theory that has impacted this study. However, the main theoret-

ical frameworks woven through this thesis are posthumanism and new materialism. Posthumanism is an emerging theoretical movement that calls humanist theories into question (Braidotti, 2013). Although humanism is often seen as the pillar of social justice education (Braidotti, 2013), in its anthropocentrism it can often dangerously center certain humans over others and separate nature from humans, leading to what might be regarded as an extractive orientation (Braidotti, 2013; Martusewicz et al., 2015; C. A. Taylor, 2016). In other words, it (re)produces extractive violence towards 'others' through registering 'others' as inert and passive through enacting hierarchical categorical distinctions (Braidotti, 2013). When saying 'others' I am referring to any body that settler-colonial logic registers as inert, including but not limited to BIPOC bodies, plants, animals, materials, and things (Watts, 2013, Ravenscroft, 2018). Post-humanism aims to radically challenge this by (1) reviving the animacy of 'others' that were previously made inert (2) moving past anthropocentric hierarchical modes and towards a more interconnected, flattened logic where materials, more-than-humans and humans stretch against an equitable relations (Odegard and Rossholt, 2016) and (3) breaking down binaries such as subject/object and nature/culture. It is through these actions that posthumanism aims at forming new conceptualizations that can grow into new pathways towards change (Haraway, 2016, Braidotti, 2013). Moreover, the pedagogical applications of posthuman theory can result in education's movement away from humans preparing other humans to partake in 'human' communities (Pedersen, 2010) and movement towards the integration of more-than-human agents (such as matter and technological 'others'). This move is crucial in pedagogical spheres as it extends the democratization of education to include all 'others', which can widen learning to include 'other' ways of knowing (Snaza et. Al, 2014, Odegard and Rossholt, 2016).

Despite their potential pedagogical application, it is important to mention that there are various branches of post-humanism that will not be included in this study such as transhumanism - which is interested in enhancing human dimensions with the help of technology and science (Lummaa & Rojola, 2015). Instead, this thesis draws from feminist new materialist thought - a branch of post-humanism that addresses the material world. Unlike other branches of posthumanism, new materialism's focus is on the primacy of entanglement to matter, referring to matter as any form of material phenomena - such as inorganic objects, and more-than-human organisms and the affect of this on human subjectivity (Sencindiver, 2017). Throughout this thesis, I draw on Braidotti's (2018) and Barad's (2007) feminist ontological, epistemological, and ethical new materialism. This specific approach to new materialism applies human engagements with more-than-human agents, the profound implications of relational ontologies, and the problematizing of dualistic thinking to social ethics (Braidotti, 2013). Jackson and Mazzei (2012) argue that feminist new materialism "can produce meanings that take into account the ways in which the discursive and material intra-act to enable an encounter with the previously unthought" (p. 118). I have chosen to think though feminist ontological, epistemological, and ethical approaches to new materialism in effort to locate previously unthought pathways towards change.

While exploring this branch of new materialism, I will primarily be thinking with Barad's (2007) theories of intra-action, agential realism, and diffraction. The term intra-action was developed by Barad (2007) in order to highlight the mutual constitution of subject and object. This term allows object/subject to exist within each-other rather than among one another. This is important as in new material theory, agency is not considered to be a property of an individual but a characteristic of an inseparable 'dynamism of forces' (Barad, 2007, p. 141). Therefore, we must

understand subject/object, human/nature, art-maker/material as inseparable forces co-constituting agency. Not only does Barad (2007) define matter as relational through their term intra-action, but they also define matter as innately animate through their term agential realism. They developed this term in order to provide an understanding of materialization that goes beyond the anthropocentric limitations of humanist theories. In an agential realist account, matter or material is recognized as an intra-active becoming rather than a fixed substance or thing. This not only means that matter is recognized as feeling, suffering, and experiencing, but also means that matter interacts with us and other matter. Barad (2007, p. 66) describes this through stating the following,

> *"What is needed is a robust account of the materialization of all bodies—'human' and 'nonhuman'—including agential contributions of all material forces (both 'social' and 'natural'). This will require an understanding of the nature of the relationship between discursive practices and material phenomena; an accounting of 'nonhuman' as well as 'human' forms of agency; and an understanding of the precise causal nature of productive practices that take account of the fullness of matter's implication in its ongoing historicity."*

This idea is foundational to this study as I will investigate the role of the intra-relationship of art material, artist, and ecology in leading transformative learning. In addition to thinking through Barad's theories of intra-action and agential realism, I drew on their theories on diffraction while re-orienting the studies research methodologies into a new material framework. While defining diffraction, Barad (2014) metaphorically peels apart the physical phenomenon of wave patterns in quantum physics. In order to do so, Barad discusses Thomas Young's account of waves en-

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countering an obstacle upon their path: when two waves, from different origins meet, their combined effect depends on the difference in path length. They use this as a metaphor for understanding diffraction as the effect of differences. They go even further to define diffraction as an effect of differences unto one another through stating, "we can understand diffraction patterns – as patterns of difference that make a difference – to be the fundamental constituents that make up the world" (Barad, 2007, p.72).

In addition to drawing from the aforementioned theories of Barad (2007), I have integrated recent research into art education and new materialism such as work by Odegard and Rossholt (2016), Collins (2019), Garber (2019), Ravisankar (2019), Ylirisku (2020), and Blair (2020). These scholars investigate ways in which new materialist engagement allows makers to move away from anthropocentric hierarchies and towards more even relationships with bio-centric 'others'. My aim in thinking-with new material theories is not to, as Roziek (2019) puts it, to simply "justify a departure from inherited Eurocentric humanist ontologies" (p. 337). Rather, by aligning this thesis with new material theories, I aim to uncover how recognizing non-human agency through environmental art-making can lead to environmental ontological relations.

1.6: Limitations of New Materialism: Indigenous Perspectives

While thinking with new materialism, it is crucial to make clear the connections between Indigenous agential ontologies and new materialist theories and it is essential to recognize how the white, colonial, and Eurocentric academy has been and still is institutionally acting out the continuing genocide of Indigenous peoples and knowledges (Todd, 2014, Tuck, 2014, Ravenscroft, 2018, Rosiek et al., 2020). Although some post-human theorists seek to act in de-colonial ways, posthumanist and new material scholars (both historically and presently) act out of a pri-

marily Western-colonial framework, often leading to the (re)production of epistemic violence towards Indigenous ways of knowing (Tuck, 2014, Rosiek et al., 2020). An example of this colonial extraction is the evasion of Indigenous knowledges often enacted by posthuman and new material scholars. In the words of Indigenous feminist scholar Zoe Todd, from Amiskwaciwskahikan, Indigenous peoples are "not credited for these incredible insights into the 'more-than-human'"(Todd, 2014, p. 22). This point is further constructed by Ravenscroft (2018) who states the following,

> *"If we think of new materialism, then, not as ideational but as a specific material configuring of the stuff of the world, then we can propose that one of its boundary-making practices—its thingification—is colonialism and the Indigenous practices that colonialism says are not there but which it takes up (or takes) anyway. The act of refusing this indebtedness performs—makes—the very same Enlightenment discourses that new materialism insists must be transformed if the devastation wreaked on the West's Others." (p. 358)*

All that to say, while thinking-with posthuman and new material theories, it is essential to acknowledge Indigenous materialisms and cite Indigenous scholars (Rosiek et. al, 2019). In order to accomplish these actions, I will use this section to review several Indigenous epistemologies that are formative to the aforementioned new material theories of intra-action, agential realism, and animacy (Barad, 2007, Watts, 2013, Hunt, 2014, Todd, 2015, Tallbear, 2015).

While considering Indigenous perspectives on non-human agency, the 'new' materialisms are revealed to not be very 'new'. Indigenous animism is noted to be one of the oldest spiritual beliefs (Horton & Berlo, 2013) and in Indigenous scholar Kim TallBear's (2015) words, "Indigenous peoples have never forgotten that nonhumans are agential beings engaged in social relations

that profoundly shape human lives." (p. 234). In a similar vein, Haudenosaunee and Anishinaabe scholar Vanessa Watts (2013) operationalizes a principle of "Indigenous Place Thought,". This Place-Thought "is based upon the premise that land is alive and thinking, and that humans and non-humans derive agency through the extensions of these thoughts (p. 21)." She defines animacy as going "beyond being alive or acting" and "to be full of thought, desire, contemplation and will." (p. 22). Moreover, she expands upon how non-human beings choose how they live, interact, and develop relationships with one another. This means that, unlike to new materialism that views nonhumans as animate only through intra-action, Indigenous agential ontologies view the non-human as animate without any human interference (Rosiek et. Al 2019). While looking to Indigenous artists like Durham, Rebecca Belmore, Will Wilson and Jolene Rickard who share a concern with the liveliness of matter (Todd, 2015), the aforementioned Indigenous theories of animacy become visually alive. These artists explore materials not only as inherently animate, but as shapers of human life through their embodiment and dissemination of profound lessons.

In addition to animacy being a longstanding Indigenous understanding, new-materialist notions of entanglement are foundational to Indigenous ways of knowing. Ravenscroft (2018) illustrates this through stating that "in Australian Indigenous materialisms "human" and "inhuman" are so extensively, elaborately, and constitutively entangled that the very terms human and inhuman, culture and nature, body and ground as conceived within a Western-oriented epistemology start to tremble, if not fall." (p. 355). Moreover, Indigenous epistemologies often exist without any disconnection between artmaking, material, and identity. Todd (2015) speaks to how the entanglement between land, art, and material, is formative to her Indigenous identity as a Métis person. Further, Rosiek (2019) illustrates Indigenous entanglements through discussing

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how the phrase 'Water is Life' was intended to refer to the inseparable relationship between humans, water, and the earth. She explores how this statement was misinterpreted through the lens of Eurocentric protestors and then regurgitated with the anthropocentric meaning of 'water sustains human life'. Indigenous scholar and teacher Robin Wall Kimmerer, who is a member of the Citizen Potawatomi Nation, discusses the inseparability between Indigenous languages and animacy (2016). In her chapter "Learning the Grammar of Animacy", she explores the inseparable connection between Indigenous language and the animacy of plants. She discusses how in the Potawatomi language does not divide the world into feminine/masculine, inanimate/animate, or verbs/nouns and explores how these implicit interconnections lead to a language of animacy. For example, if speaking Potawatomi, rather than calling a hill, or a bay, or a Saturday just that, you would instead say "to be a hill", "to be a bay" or "to be a Saturday". All of the instances that have been explored in this section are examples of how entanglement is both foundational and connected to material animacy in an Indigenous agential account. Categorical distinctions, as they will be critiqued throughout this thesis, are very much tangled within settler-colonial onto-epistemologies (Watts, 2013, Kimmerer, 2016).

In acknowledging the connections between Indigenous agential ontologies and new materialism, I do not intend to underestimate the violence of colonial practices in contributing to Indigenous genocide. My goal in doing this is to find solutions to the furtive borrowing new materialist scholars have often engaged in. In lieu of these small efforts, much work needs to be done to Indigenize new materialist scholarship in order to move towards de-colonial research practices. My hope is that through recognizing both the profound role of Indigenous knowledges in

new materialist scholarship and the ongoing nature of colonial violence that research project can act as a slight step in a decolonial direction.

1.7: Putting Theory to Work

New materialism as an area of scholarship (Alaimo and Hekman, 2008, Barad, 2007, Braidotti, 2013, Bolt and Barrett, 2014, Coole and Frost, 2010, Hekman, 2010) calls on theorists to re-integrate an emphasis on materiality in research. By this I mean that new materialist research aims to facilitate both an embodied and relational understanding of the research process. Both the methodologies and research findings of this study follow a new materialist framework as they recognize material relationships as an embodied and relational processes that leads to learning (Garber, 2019). In other words, this study recognizes the entangled relationship between maker/material as one that is foundational to the learning process as it is through this relationship that we come to know ourselves and our environment (Page, 2018, Watts, 2013, Todd, 2015). This is recognized through this study's inclusion of materially focused interviews, arts-based auto-ethnography, and use of diffractive analysis.

By engaging with what Garber (2019) and Ravisankar (2019) refer to as materially-centred interviews - interviews that acknowledge the importance of material processes rather than only human ones - this research unpacks the entanglement of maker to material. New materialist frameworks were embedded within the interviews through the introduction of questions that uncovered the entanglements between maker, made, and material and the heavy focus on artworks and art-making. To facilitate the latter, participants were asked to bring in environmental artworks that they have made and often attended the interviews from their studios.

Throughout the auto-ethnographic process, I documented my movement away from my traditional painting practice and towards an environmental art-making practice. Posthumanism, new materialism, and Indigenous theories on non-human animacy were embodied throughout this process as throughout my experiences with environmental art-making I surrendered my pre-conceived role as an artist as one that is the apex of the art-making process. This allowed the auto-ethnographic research to function outside of a humanist framework and rather, move to-wards a collaborative being-with more-than-human agents.

This study puts Barad's (2007) concept of diffraction to work through engaging in dif-fractive analysis with both the findings from the interviews and auto-ethnography. Diffractive analysis is defined by Mazzei (2014) as "a reading of data with theoretical concepts (and/or mul-tiple theoretical concepts) in order to produce an emergent and unpredictable series of readings as data and theory make themselves intelligible to one another" (p. 743). Throughout this study, I engaged in a diffractive analysis by moving beyond identifiable similarities in the data set and towards responding to the details of relations of difference. I did this by reading the data sets all together with and through several theoretical concepts. Moreover, through its use of diffractive analysis, this research study exercises Deleuzian and onto-epistemological framework's careful focus on the 'in-between' (Deleuze, 1994, Barad, 2012, Braidotti, 2018, Tuin et. al, 2012) through recognizing material entanglements between the research, researched, artists, and art-works. Implicit in this was also recognizing the situated knowledge (Haraway, 2019) of each par-ticipant and what effect this had on their experience of environment, material and art-making.

1.8 Overview of the Thesis

In this first chapter, I have highlighted the significance of this study in the work it does to locate ways in which a shift in consciousness towards ecological ways of being can be enabled through environmental art education. I have gone over this study's aims to find (1) the challenges posed by anthropocentrism in AE, (2) the pedagogical potential environmental art-making has in unearthing networked connections, and (3) the power environmental art-making has in encouraging ecological capabilities in makers. I have reviewed the theoretical frameworks of posthumanism and new materialism; highlighting where they specifically act as foundations throughout the study and defining all of the terminology that is associated with these frameworks used throughout this thesis. Moreover, I located ways in which feminist new materialism borrows from Indigenous epistemologies and reviewed Indigenous agential ontologies. Now, I will move into an overview of what is to come.

In chapter two, I will lay out a map of previous research into environmental art-making in education. Previous research has operated through a range of contexts and has surmounted an array of approaches at 'greening' AE. I will focus on five areas that emerged through my research: (1) place-based EAE, (2) critical cultural reflection, (3) conscientious materiality, (4) community EAE and (5) posthuman pedagogies. These areas are particularly pertinent as they emerge as critical voices throughout the research findings.

In chapter three, I will go over the rethinking and reconfiguring of research methods and research analysis necessitated by this study through its movement away from colonial anthropocentric modes. Overall, this section questions *what can educational research look like when we reconsider what constitutes an educator?* Through positioning more-than-human agents at the

centre of the research process, this section discovers ways in which scholars can reconfigure research methods to include 'other' ways of knowing and disseminating knowledge. I will begin this section by discussing the triangulation of the research methods and will then go in-depth regarding the three distinct research phases which are (1) auto-ethnography, (2) interviews, and (3) interconnected analysis.

I will then move into chapter four and five, where I will discuss the research findings that came out of the extensive methodological work. The research findings will be separated into two sections - *Challenges in AE (Dualistic Thinking and Anthropocentric Art-making)* and *Possibilities for AE (Becoming-with the Junk Drawer)*. The first section - *Challenges in AE* will investigate ways in which anthropocentric modes lie in the way of enacting an EAE. The following section will look into the profound implications environmental art-making has in aiding in the development of environmental ways of being-with-the-world. By investigating both the challenges and the possibilities, this research acts as a hopeful venture while still holding onto the immensity of the environmental crisis.

Finally, in chapter six, I will conclude this thesis by outlining the implications of the research contributions through providing an overview of chapter four and five. While overviewing chapter four, I will discuss how this research study located a relationship between dualistic thinking and anthropocentric art-making. Through my overview of chapter five, I will highlight several ways in which material recentering can encourage environmental modes of being. I will then turn to what was left out of this study and outline what ideas need to be explored by others at another time. Lastly, I will end this thesis with some final thoughts on the role of material entan-

glement, animacy, and the power of art-making as an active changemaker during these times of

crisis.

2: Eco-Art Education Review

In this chapter I will map out art education (AE) as a field of scholarly study and practice that has traversed eco-social challenges in a multitude of ways over the last several decades. Art educators and scholars have looked at place-based practices, collaboration, material culture, and posthuman pedagogies as pathways towards an ecologically-focused art education. The majority of these initiatives can be framed with the term environmental art education (EAE) which was heavily conceptualized by Suzi Gablik's book *The Re-enchantment of Art* (1995) and later solidified by Ulbricht (1998), who widened the conception of interdisciplinary 'environmental art education' to include social and built environments. Inwood (2010) later described EAE as a practice that "integrates art education with environmental education as a means of developing awareness of an interaction with environmental concepts and issues" (p. 58). The area of EAE expands far beyond these few definitions, which you will encounter in the following review.

Mapping and interpreting EAE scholarship is complex as it is not only an inter-discipline of art education, but is one that is hard to define. This is due to both the fact that there is a wide range of accepted and practiced versions of EAE and the majority of scholarship in this area emerges from broader subjects such as social justice education, art education, or environmental education. A symptom of this disciplinary merging is that there are many diverging perspectives within this area of research, making it complicated to derive specific themes for review (Boeckel, 2013). I decided to review a range of approaches to EAE that share a common thread - the aim of re-working the human/environment divide whether it be through sense of place, community-building, critical reflection, material reclamation, or posthuman thought. As the aim of this thesis is to investigate what happens when the material is recentered through environmental art-

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making, I felt it was essential to research how embodying biocentric ways of being has been enacted in AE thus far. In order to review these themes, I divided them into five groupings - (1) place-based EAE, (2) critical cultural reflection, (3) conscientious materiality, (4) community EAE, and (5) posthuman pedagogies. Although there is cross-over between these five areas of research, I split them up this way in order for them to correspond more clearly with the general categories of the research findings contained later in this thesis.

2.1: Place-based EAE

The first central theme of the reviewed EAE literature that I will be looking at is the idea of place-based eco-art education (Blandy and Hoffman, 1993, Gablik 1995, Hicks and King, 1996, Inwood, 2010, Graham, 2007, Hicks and King, 2007, Gradle, 2007, Garber, 2019, Sunassee, 2020). Blandy and Hoffman (1993) are foundational to this research area since they base their approach off of eco-theory and community art education and as such argue that "art promotes an understanding of the interdependence and interconnectedness of all things" (p. 28). They argue for art educators to be cognizant of this interconnection in order to understand their biotic and geologic communities and move towards an education of place. Graham (2007) builds upon this foundation through discussing the importance of infusing art education curriculum with contemporary art practices as it helps ground students in the actual world and its environmental condition. He argues that locating art education within a critical place-based pedagogy can lead students to value local ecologies and question human/environment relationships. In a similar vein, Hicks and King (2007) call for educators to reimagine the human relationship and collaboration to nature through art. They discuss how art education is "well situated to address environmental problems that emerge at the point of contact between nature and social life" (p.

334). Gradle (2007) pursues this further by navigating the 'ecology of place' as a route to eco-awareness through her discussion on art in a relational world. In effort to explore the relational as the collaborative and transformative, she investigates the question, "can we envision art education in a manner that enlarges and deepens a sense of place as being one of connections, complements, and distinctions"(p. 392). More recent work by Inwood and Kennedy (2020) explores how art, place, and environmental practices can join forces. They discuss a project that took place at OISE's main staircase. In order to get students and staff to walk the stairs more frequently, they integrated sustainable artwork onto the walls of the stairway. The place-based use of sustainable arts to encourage the more sustainable option of walking the stairs comments on how our bodies are entangled daily with 'sustainable' practices. Perhaps through this personal and place-based implementation into the 'natural' environment, students could develop empathy and connection for the 'natural' world. In the past five years, there has been a more broad movement towards empathy and joy in place-based environmental education. For instance, Barrett (2015) discusses how empathy can help students access the interconnectedness of living things and argues that a critical place-based art curriculum can lead to such empathy. Sunassee, et. al (2020) later expanded on this by discussing eco-arts education and place-based methodologies as pathways towards environmental empathy due to place-based methodologies' power to promote connections. They state that empathy with the environment acts as a kind of connectedness with the natural world. This connection is embodied through the enjoyment of nature, empathy for creatures, sense of oneness, and sense of responsibility. Often not mentioned (due to the colonial hyper-separation between Western and Indigenous knowledges) is the impact of Indigenous ways of knowing unto the field of place-based environmental education. Watts (2013) highlights the

importance of place-based theories to Indigenous ways of knowing through observing, "it is not that Indigenous peoples do not theorize, but that these complex theories are not distinct from place" (p. 22). Further, in "Spirit and Reason", Standing Rock Sioux scholar Vine Deloria (1999b) discusses how Indigenous people don't speak about nature conceptually, but talk about the immediate environment in which they live. She states that Indigenous people "do not embrace all trees or love all rivers and mountains - what is important is the relationship you have with a particular tree or a particular mountain (p. 223)." Both of these ideas are foundational to place-based education's aforementioned focus on locality, place, and entanglement with specific biotic communities.

2.2: Community-building

Although the notion of community is usually addressed adjunct to other topics like responsible materiality, place-based education, or critical art education, I felt it was important to address on its own as I will be delving into this area throughout the research findings. One area of EAE that delves into community-based practices is the realm of garden-based pedagogy (Danks 2010; Dyment 2005; Stone 2009, Jagger et. al, 2016). The roots of garden pedagogies go back to Blandy and Hoffman (1993) who argue for art educators to expand their notion of community to include biological and geologic 'others'. Building on this notion of expanded communities, Jagger, Sperling and Inwood (2016) unearth the potential of a garden to develop students' environmental knowledge and encourage students' sense of environmental responsibility. They elaborate that a garden invites students to make connections between nature and one another. Another area in EAE scholarship that focuses on community building is the domain of place-based and site-specific art-making. Eça and Mason (2008) discuss an ecologically-focused site-

specific art workshop that had the capacity to bring five cultures together in community. The artists involved with the project made art with local communities, offering space for interaction, dialogue and participation between art, the environment, and local peoples. Similarly, in the book Art, *Community and Environment: Educational Perspectives* by Coutts and Jokela (2008), community EAE is discussed in terms of social sustainability and community agency. Within this book, Hiltuten (2008) argues that landscape art can facilitate community and ecological values, leading to community and personal agency. In line with Hiltuten, Dawes (2008) discusses how land art can bring disenfranchised communities together in order to project unheard voices and argues that this can lead to the regaining of cultural identities. Overall, EAE literature looks at the concept of community as related to the nature of environmental arts-based practices as local, collaborative, cultural and site-specific. More specifically, literature thus far has argued that community arises when art-makers connect to each-other through relating to local environments, such as gardens, towns or forests. The research project contained in this thesis explores how environmental art-making brings communities together in order to share skills, make materials accessible and discuss issues that feel daunting to tackle alone - topics that have not been specifically addressed thoroughly in the EAE literature.

2.3: Critical Art Education

Another main theme in the reviewed literature is the idea that sustainable art education can inspire students in critically reflecting on larger structures that reproduce environmental issues. Socially oriented or critical art education has its roots in Scandinavian Marxist art education from the 1970s onwards (Illeris, 2012). Therefore, at the core of critical art education is the notion of art as social commentary and analysis that can lead to change. For instance, Illeris

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(2012) discusses how art educators should not only use the 'climate gaze' when dealing with environmental sustainability in the classroom, but should make space for students to confront climate issues "ethically and effectively, and to think about alternative approaches through art/visual culture that actually enact change" (p. 234). In line with Illeris, Finley (2011) discusses how green art can allow students to engage with critical reflection on the colonizing, dehumanizing, and oppressive structures of daily life. Finley (2011) argues that the dialogic aspect of art can bring together different communities through transforming the dominant cultural politics of neo-conservatism and ubiquitous capitalistic growth that threatens biological life. Grande (2004) argues that green art can allow students to recognize they are part of nature, giving them a holistic sense of purpose. Grande unearths how green art must be materially ethical and grounded to a sense of place in order to be transformative. Hicks (2012) considers the multidimensionality to the concept of sustainability in terms of its ecological, economic, cultural, and ethical aspects. She discusses the relationship between cultural and environmental sustainability and argues that art education must engage us critically in order to pursue the urgent goal of forming healthy relationships with others, both human and non-human. Bequette (2014), also discusses how art-making could urge students to question their underlying assumptions on social and cultural practices. He argues that culture-based arts integration is an important facet of decolonial and anti-oppressive education. Bequette (2014) looks at both place-based pedagogy and material culture while engaging with critical art education, which is one example of how these different categories intersect. The area critical art education suggests that greening art education can help lead to a socially just pedagogy and socially engaged students. Often, critical art education is directly addressed through responsible materiality as materials serve as indicators of culture.

2. 4: Conscientious Materiality

Another dominant theme that I found in the reviewed EAE literature is the practical notion of making an ecological material shift. It is important to note that there are many connections between materiality and critical cultural reflection. The foundations of ecological materials can be traced back to the 1970s when people began to reuse creatively as an act of resistance against the damages consumer culture has on the environment (Timm-Bottos, 2017) and to the subversive earth art movement of the 1960s (Inwood, 2010). However, more recently, the use of ecological materials in EAE has just as much to do with cultural criticism as it does with inspiring sustainable awareness and environmental connection (Sang, 2010 Girak, 2019, Garber, 2019, Inwood, 2013). In EAE scholarship, conscientious materiality refers to both creative reuse and land-based materials, although these kinds of materials are discussed in different ways and are thought to have different impacts. The main distinction between creative reuse and 'natural' materials is that materials are reused as a form of cultural critique and land-based materials are used to bring about human/environment connections. For example, Sang (2010) explores creative reuse with plastic bags as a means of critical cultural reflection for primary art students. By creating new bags out of old plastic bags, students learned to work against disposability culture. Instead, they partake in the conscientious practice of creative reuse. Girak et. al (2019) suggest that creative reuse "can represent aesthetic explorations that resist reckless consumerism and foster ethically responsible attitudes by recognizing the potential of discarded materials" (p.371). They carry out a creative reuse research project that seeks to address "if 12-year-old students make art using creative reuse of discarded materials would that trigger shifts in their attitudes and behaviours towards environmental sustainability?" (p. 372). The study led to youth to contemplate the

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politics of their own consumption. Lastly, Odegard and Rossholt (2016) discuss how creative reuse leads to ethically responsible attitudes by helping students recognize the potential of discarded materials.

Contrary to the literature on reused materials, land-based materials are often more discussed in environmental education literature (Jokela, 1995, Lankford, 1997, Jagger et. al, 2014, Marks et. al, 2016). Often, biodegradable materials are used in order to inspire ecological appreciation in students (Marks et. al, 2016) and teach environmental stewardship and care (Lankford, 1997) or introduce students to the aesthetic dimensions of the more-than-human world (Inwood, 2010). For instance, Garoian (1998) had students create earth drawings with soil to engender an art education where different outlooks on 'nature' can exist. She argues that earth drawings are a way for EAE to provoke empathy, compassion, and caring for the land in students. Bequette (2007) argues that relating to Indigenous material cultures could increase all students' awareness of ways of knowing other than their own, whether it be Indigenous ways of knowing or the knowledge of biological others. Marks (2016) tell us that environmental art that employs nature as a medium can be used to engage communities in raising awareness of their environment. They argue that raising awareness can encourage environmental stewardship and attachment to place. Inwood (2010) discusses how art educators can green their practices through the use of 'natural' art materials. She argues that the use of biodegradable materials and material foraging can help students discuss environmental concepts and experience different environments firsthand. Blockley (2015) explains how 'rewilding' creativity through environmental art-making can be healing for ourselves and the environment. She explains that through engaging with a nature-based art practice, she felt more inspired to think and exist creatively.

The main distinction between reused and environmental materials are that reused materials are often used to engage with critical art education, and environmental materials are used to facilitate human/environment connection. Implicit in this division is the notion that human-made items are divided from the 'natural' world - a concept which is often challenged by eco-theorists as with environmental crisis 'nature' and the 'human-made' worlds entangle (Davis, 2014). Occasionally, EAE scholarship has built upon the work of eco-theory (Blandy and Hoffman, 1993, Odegard and Rossholt, 2016, Bayley, 2018, Garber, 2019, Blair, 2020, Ylirisku, 2021) in order to reject the ideas that people and their creations are the antithesis to the more-than-human world and are at the centre of all creation. In this area of scholarship, art has been outlined as critical for understanding the post-human ideas of entanglement and therefore healing towards political action (Orenstein, 1990, Gablik, 1991).

2.5: Posthuman Pedagogies

The divisions between 'environmental' and 'human' apparent in EAE scholarship are recently being addressed through the post-human lens. The majority of EAE scholarship has focused on the damages of materials and the benefits of sustainable materials, but not until recently were art materials investigated through the lens of post-humanism and therefore framed as pedagogical agents (Odegard and Rossholt, 2016, Bayley, 2018, Garber, 2019, Collins, 2019, Blair, 2020, Ylirisku, 2021). A useful concept discussed by Bayley (2018) and Garber (2019) is how using sustainable materials may help us re-relate to our environment. Bayley explores the notion of objects as teachers by asking the question "who and what teaches?" (p. 244). Contrary to the long-lived imaginary of teachers as 'living' entities that deliberately deliver information to other 'living' entities, Barad (2007) states that considering the dynamism of forces can allow us to be

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cognizant of our entanglement to matter and intra-action with objects. Odegard and Rossholt (2016) introduce posthuman pedagogies to EAE scholarship by studying children's nonhierarchical becomings with Pleksiglass, lights, and movements. They explore how responsible materiality and creative reuse allow children to form entangled non-hierarchical becomings with the more-than-human world. Odegard and Rossholt (2016) go further to state that entangled multi-sensory experiences can lead to responsibility towards nature. For the most part, posthuman thought has been introduced in the field of EAE during more recent years due to the importance of being in collaboration with living others (Ylirisku, 2021). The movement from anthropocentric models of environmental art education is crucial in promoting a conscious shift that will lead to the development of lasting relationships of reciprocity with the more-than-human world (Garroutte & Westcott, 2013; Jones & Hoskins, 2013, 2016; Simpson, 2017, Kimmerer, 2016). This is especially important during the environmental catastrophe which forces us to re-relate to our sensory reality (Davis, 2014).

Throughout recent years, the lived experience of the environmental crisis has spread globally and is now impacting those in city centers who have long avoided the material reality of the crisis. This means that the environmental crisis is being further addressed in EAE literature and tangible resources are being created for educators such as the Gaia project, or the Teachers Climate Guide. Despite scholarship moving in this direction, several calls for research (Barrett, 2015, Bentz, 2020, Ylirisku, 2021) exclaim that there is not enough research being done in this area and because of this, the environmental crisis is rarely integrated into art curriculum (Bentz 2020).

Though many scholars have explored new material frameworks in education (Hicks, 2007, Garber, 2019, Inwood, 2020, Blair, 2020), the impacts of materials (Hicks, 2007, Sang, 2010, Timm-Bottos, 2017, Inwood and Kennedy, 2020), and the power that art education has for the development of environmental consciousness (Bequette, 2007, Graham, 2007, Hicks, 2007, Inwood and Kennedy 2020), there has yet been a comprehensive analysis that explores current issues and future possibilities for environmental art education. Furthermore, the majority of the reviewed research focuses on student engagement in EAE (Anderson, 2000, Inwood and Kennedy, 2020) and there has been a lack of research that directly looks into artist and educator attitudes. These research gaps and recent calls for research into the material practices of art education through a new material lens (Ylirisku, 2020) are what led me to embark on this study. I have aimed for this thesis to be a logical next step in EAE scholarship as it will explore art educator perspectives on place-based learning, sustainable materiality, community-building, and critical art education through a new material framework. By asking the question *'what are art educator attitudes on the challenges, possibilities and outcomes of a materially-focused eco-art education'* this research study will offer insight into the profound implications of new material practices in environmental art education and will act as a foundation for further exploration into specific challenges and possibilities within EAE.

3: Methodology

In its essence, the objective of this research project is to discover educator attitudes regarding challenges and possibilities for a materially-centered EAE. The refusal of the humanist idea of separateness often infused between 'art-maker' and 'art material' woven through this study necessitated the rethinking of data collection and methodology. Throughout this chapter, I will discuss how this study challenges research methods by leaning into community-based data collection and diffractive analysis (Lather, 2016). I will begin by discussing the triangulation of research methods that were used in this study and will then cover the three distinct research phases which are (1) auto-ethnography, (2) interviews, and (3) interconnected analysis. After discussing the methods and data analysis, I will give an overview of the research and describe how it will be structured while paying attention to the importance of diffraction within this study. In its entirety, this chapter will delve into the community-based practices and new materialist methods of data collection/analysis that were put to work throughout this research study.

3.1: Qualitative Research Methods

The environmental crisis is often investigated through quantitative research studies and disseminated through scientific curricular models (Bentz, 2020). Although these practices are necessary for understanding the more-than-human world in a scientific way, there is a need for qualitative arts-based research in this field of study due to the fact that the climate crisis is not only a crisis of the 'land' but of the social world. In regard to this study, quantitative research methods would not be suitable for investigating how artists and art educators are navigating the climate crisis in their respective practices, because the strength in this case is not in numbers but in communicated lived experience. To elaborate, this study not only focuses on situations and

experiences of people but has completely emerged out of these relations (Maxwell, 2006). The underlying intellectual goal of this study was to understand participants' perspectives, the contexts in which research participants act, and the process at which things take place. Fundamental to this study is process theory which emphasizes looking at people, situations, events and how these influence one another. Due to the inherent focus on the connections between the personal, lived, and cultural, it was most suitable to use qualitative methods of data collection and analysis. Further, it was crucial to choose research methods that directly connect to the need for solidarity, community, and power redistribution during the environmental crisis. Qualitative research methods can bring these objectives into fruition as they often have the power to produce a positive affect on the involved communities in addition to producing research findings (Butler-Kisber, 2010).

This research study employed the qualitative research methods of art-based auto-ethnography, semi-structured interviews, and group participatory analysis in order to address the following research questions:

i. In what ways does the environmental crisis affect artists' and art students' relationship to the materials they use?

ii. What shifts occur in the art-making or art teaching process when sustainable materials are being used?

iii. How do conscientious materials change the way artists' relate to consumption and therefore ecology?

iv. What do art educators, artists and art students think are the possibilities for conscious shift towards sustainability in art creation and art education?

v. What do art educators, artists and art students think are the current boundaries that block us from conscious shift towards sustainability in art creation and art education?

3.2 Triangulation of the Research Methods

In order to reach succinct research findings through qualitative cross-validation, I decided to triangulate the research methods (Wiersma 2000, Hoyo and Allen, 2006). As the research objectives are to investigate material relationships in EAE, it was important to *(i) reflect on material art-making through auto-ethnography (ii) ground the personal in conversation with artists, makers and educators, (iii) bring community together to discuss potentialities.* The triangulation of the research methods ensures that each method further validates the data collected from the previous method. For instance, in order to combat the lack of community voices in auto-ethnography, the use of interviews was employed, and in order to make up for the potential bias involved with analyzing interview data individually, group participatory data analysis was introduced. Each method then makes up for the possible error type inherent in the other methods, leading to more valid research findings.

3.3: Phase A: Auto-ethnography

As Teti et al. (2020) state in their recent work, the pandemic is a social event that is disrupting our social order. Prior to the COVID-19 pandemic when I started this work, my research plan was to engage a community group in a sustainable art-making program. However, due to physical limitations the research needed to change course. As this research project aims at uncovering the transformative possibilities of EAE, I felt that it was important to include transformative art-making as a part of the data collection, which is why I decided to use arts-based auto-ethnography. In an effort to mimic the original intention of engaging with a focus group through

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discussing artworks made during a collective art-making process, I decided to have the photos and artworks serve as a component of the group's participatory interviews alongside the artworks of the research participants.

Auto-ethnography allowed me to explore cultural experiences through the personal (Adams et. al, 2015), delve into transformative art-making (Gablik, 1990), and focus on becoming-with materials through making (Taguchi, 2012, Ravisankar, 2019). The auto-ethnographic process began with the documentation of my lived experiences as I moved away from being a painter to working collaboratively with the more-than-human world through the arts of paper craft and ink-making. As my subject of interest prior to this research project was material detritus produced through the capitalocene (Davis, 2014), I soon became interested in more ecological modes of creation. I eventually began to question my use of petrol-based materials and grew a desire to re-relate to the material/subject divide. The documentation took the form of journal entries that ranged from textual reflection to poetic exploration of memory. Throughout the process, photos were taken in order to document the intensive process of foraging, concocting, and finally making with plants gleaned from the transgressive ecologies scattered around Tio'tia:ke/Montréal. Through a process of reframing art materials as collaborators and dissociating from anthropocentric notions of material, new relationships and new encounters were formed. Moreover, by attending to the material entanglements of maker and material, the auto-ethnographic portion of this research led to a reconceptualization of the art object and art-making. The field texts and artworks generated through this portion of the research were later interwoven with the interview transcripts and ecological art-making made by other research participants, thus implicating myself as a research participant. Inspired by Ylirisku's (2020) idea of ori-

enteering, I attempted to dislocate my anthropocentric presence from the art-making process.

Orienteering refers to navigating the forest guided by more-than-human agents. For example,

rather than taking paths carved out for human mobility or interacting with ecosystems aestheti-

cally appreciated by humans, Ylirisku (2020) intra-acts with the less-traversed and less-appealing

parts of the forest. She discusses that orienteering offers her "a way of becoming entangled in

relations that are open to a multiplicity of directions and ways of being" (p. 123). Through the

auto-ethnographic foraging process, I collected in locations that were not created for human traf-

fic and were often known as forbidding and unpleasant (see fig. 1). These areas included aban-

doned parking lots, railways, and junkyards. Further, I decided to take an 'orienteering' approach

to the auto-ethnographic art-making component of this research by engaging with artistic exper-

iments that focused solely on the material rather than the aesthetic result. Through taking an 'ori-

enteering' approach, I was able to unlearn my role as an artist being at the centre of the creation

process. Further, by surrendering my cognitive control, the auto-ethnographic research was able

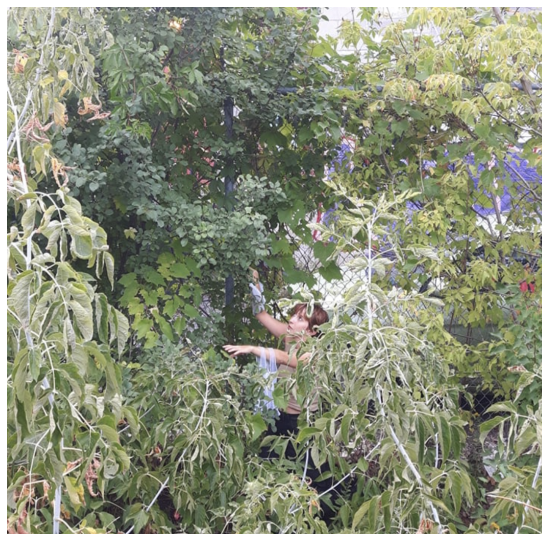to function outside of binary and anthropocentric ways of thinking and acting.

Figure 1. Scaling the muddy side of the railway to collect buckthorn berries. 2021.

3.4: Phase B: Working in Community

Decoding and dismantling the premeditated power dynamics between researcher/researched can happen through relating oneself to community (MacLure, 2013). In order to implicate myself in the research, I developed research questions based on the auto-ethnographic research and brought these to the art education larger community. Since the auto-ethnographic process uncovered entanglements and collaborations between artist and material, I decided to conduct semi-structured interviews to see what other art educators felt about human/environment/material relationships in art education and art-making. While thinking about why and how I would bring these questions to art educators, I turned to Inwood's (2005) doctoral research where she interviewed four environmental art educators on their experiences with EAE in the classroom. Although Inwood's research was successful in tackling the attitudes, beliefs, and assumptions of elementary teachers in regards to eco-art education, there has yet to be another study that looks in-depth at educator perspectives in EAE. As there have been many social and environmental shifts since Inwood's doctoral research project, I decided to partly focus my research methods around art educator perspectives. I chose to conduct individual interviews as individual interviews can lead to a richer data set (Inwood, 2005). Further, due to the nature of group dynamics, I potentially could have missed out on what less dominant personalities would want to say. The one-on-one interview was the ideal way to engage with each person fully before connecting in a group setting.

I chose to split the individual interview sessions into three segments: *(i) questions about art, (ii) questions about materials and (iii) questions about the environment.* It was important to the study to have some directive, as when creative people begin to talk about their work, the

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conversation can easily end up in a very different place. Despite this potential outcome, I decided to keep the interviews semi-structured because I did not want to close off active engagement that could lead to new territories. The interviews were semi-structured in the sense that I asked structured open-ended questions and also left space for participants to talk and reflect freely as I only chose a few questions from each section to ask and tried to stick to asking questions for clarity and expansion (Lutrell, 2000).

I managed to recruit 11 environmental artists and educators from a group that I started on Facebook in October 2020 *Creative Reuse: Ø Waste: C.R. Ø .W* - a trading group for people to trade materials destined for the garbage bin for others to creatively reuse or vice versa. I started this group separately from the research project as there was a lack of spaces during the pandemic lockdown to reclaim materials for art-making. The group has now extended beyond the initial goal of material reclamation and has served as a community space for magpies and ecological art-makers alike. By using this group as a participant pool, the research was more grounded in a community that I had a connection to. For instance, if I had drawn participants from schools or randomized call-outs, the research would lack a deeper connection to the community. The participants were recruited through a post that I made on the group that read the following,

> *Are you an artist, maker and/or educator with an interest in environmental art-making? I am looking for volunteers to participate in open-ended interviews and group analysis related to art-making, ecology and the climate crisis.*

The post received large amounts of interest from the community, thus validating a further need for research and conversation on this topic in the community. After responding to the post via email, interviewees sent in consent forms and images of artworks they made that used ecological

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materials or themes. The consent forms and overall research project was approved by McGill's Research Ethics Board prior to being sent to the participants. Once everything was received, they signed up for interview time slots that were in July and August 2020. Each interview was hosted on Microsoft Teams due to the social distancing restraints of the COVID-19 pandemic. The interviews were intended to only be 45 minutes long, but ended up being between 45 minutes and an hour and a half depending on participants' engagement. Each interview began with the interviewee sharing their submitted artworks openly. By this I mean, they did this without being asked any specific, premeditated questions. More often than not, the interviewee would end up responding to many of the interview questions throughout this open-ended component of the interview, which led to the interviews being less structured than initially intended. For the proceeding structured component of the interviews, participants addressed questions alike to the following:

(i)   have you made any changes to the materials you use over time? If so, for what reasons

(ii)   does your relationship to art-making change based on what materials you are using?

(iii)   how do your materials inform your art-making?

(iv)   what possibilities do you see for the future of materials in art education?

(v)   how does your art process allow you to connect to the environment?

(vi)   how does the climate crisis and environmental collapse influence your art practice?

(vii)   does the climate crisis change the way you conceive of art or make art?

(viii) what do you want the role of art to be in a collapsing world?

(ix)   what are possible ways we could move towards a conscious shift in how we create art and teach art, one that is more ecological? and

(x)   what do you think is blocking us, if anything, from a conscious shift in how we teach and

make art?

These kinds of questions would only be asked when the research participant was beginning to

stray from the research intent. Often, these questions would be answered through participants'

initial description of their artworks and art teaching practice.

3.5: Phase C: Interwoven Analysis

As there were three distinct research phases, this research project employed three stages

of analysis. In this section, I will be discussing diffractive, group-participatory, and constant

comparative methods of analysis. The preliminary data analysis stage was done in order to distill

the research findings for the group-participatory analysis. As I wanted to emphasize community

voices, it was essential for this stage of the data to highlight educators' experiences more than

create concrete categories which led to me choosing to analyze the data through a diffractive

lens. Once the research findings were constructed, they were brought to a group setting where

they were further analyzed and ideas and concerns were added. The group participatory analysis

served as both a tool for data analysis and a method of data collection. It was therefore necessary

to include a third and final stage of data analysis where I used the comparative method to derive

main themes from all of the transcripts and field texts.

Informed by the work of Liebenberg, Jamal, and Ikeda (2020), this research project aims

to employ group evaluation in order to "better ensure that research findings more accurately re-

flect the realities of participants' lives and that resulting actions are more likely to bring benefits"

(p. 2). This study is also inspired by Liebenberg, Jamal and Ikeda's (2020) focus on authentic

participatory analysis as an empowering process that can lead to the goal of social change for

social justice. Participatory data analysis, unlike empowerment evaluation (Fetterman et al.,1996) seeks to deepen a sense of community in order to create social change. In light of the devastation the climate catastrophe causes communities, the participatory analysis portion of this research aims to build community strength as a way to combat the social effects of the climate crisis and move towards interdependent healing and change. For Patton (1997, p. 100), the main ideas of participatory analysis are as follows -

> *(i) involving participants at every stage of the research process; (ii) making sure they own the evaluation; (iii) focusing the process on the outcomes they think are important; (iv) facilitating participants to work collectively; (v) organizing the evaluation to be understandable and meaningful to all; (vi) using the evaluation to support participants' accountability to themselves and their community first and outsiders second, if at all; (vii) developing the evaluator role as a facilitator, collaborator, and learning resource; (viii) developing participants' roles as decision makers and evaluators; (ix) recognizing and valuing participants' expertise and helping them to do the same; and (x) minimizing status differences between the evaluation facilitator and participants.*

I was specifically inspired by Patton's (1997) latter focus on the dismantlement of hierarchical research norms as I believe redistribution of power is a necessary process for environmental justice work and therefore have aimed for the employed research methods and analysis to directly connect to this outlook.

Despite striving to break down researched-researched hierarchies, aspects of this study had to be researcher-led rather than participant-driven due to the time constraints. Following the

individual interviews and auto-ethnographic research process, I was confronted with a heavy

amount of data. Although the quantity of data served as evidence for a research need, it was not

possible to present all of the data in a group-participatory setting. An important component of

this research project was its distinctiveness as a materially-based project. Therefore, I wanted to

locate a preliminary data-analysis technique that would allow me to become-with research par-

ticipants in order to challenge presupposed relationships of power and divisions between materi-

al bodies. Moreover, I sought a research analysis method that would allow me to challenge the

presupposed hierarchies of human/material as the auto-ethnographic research emphasized recen-

tering more-than-human agents through taking on an orienteering approach. I came across

Taguchi's (2012) diffractive and Deleuzian approach to analyzing interview data and Mazzei's

(2014) method of reading data *with* theoretical concepts which inspired me to encounter the data

through a diffractive lens. As a methodology that is driven by difference, diffractive methods are

useful in looking at the relations between art-maker/material (Barad, 2007, Taguchi, 2012).

Through remaining attentive to diffractive material realities, I noticed that each research partici-

pant had a different relationship to art-making, the environment, and education. Their day-to-day

bodymind experiences ranged indefinitely and therefore, it felt reductive to code the data into

hyper-specific categories. If I were to have done this, it may have led to a surface-level discus-

sion during the group interview. Therefore, I set out to move beyond identifiable similarities in

the data set and towards responding to the details of relations of difference by reading the data

sets all together with and through several theoretical concepts and installing myself within the

data to consider the intra-actions between the artists, their environments, artworks, and art-mak-

ing methods. Although diffractive data analysis often completely negates categorical distinctions

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of the data completely, inspired by Mazzei (2014), I decided to organize the data into a series of

questions that (1) connected theoretical ideas with interview data and (2) made room for differ-

ences to meet and create further diffraction. Moreover, by using questions, I was able to connect

the interviews back to knowledge and account for differences between participants' material real-

ities and relationships to the research topic. As I organized the data into sets of questions, I

worked with many transcripts, field texts and videos at the same time. I watched the interviews

alongside reading the transcripts in order to consider the experienced materialities of sound,

touch, and space through participant attitude, pauses, and engagement with material. Naturally,

the outlier category after the initial research coding was quite large so I reincorporated outliers

into data sets by expanding certain questions. This ensured that many diffractive perspectives

were included in the research findings. I eventually ended up with eight questions that were used

to promote discussion during the participatory group analysis. The first four questions dealt with

the theme of 'challenges' and the latter four questions explored 'possibilities'.

Challenges

1. How would you change the definition of art or ethos of art to fit our current world?

2. In what ways does the culture of disposability exist within art education?

3. What does it look like to make art without relying on industry? If art was separated from in-
   dustry, what would art look like?

4. How does the climate crisis impact art education and art-making?

Possibilities

5. What are some purposes for reclaiming materials? What are some results or effects of cre-
   ative reuse?

6. While considering our materials as our teachers and educators, what have you learned from your art-making materials?

7. How can community art practices help us navigate the climate catastrophe?

8. What can art-making teach us about the more-than-human world?

Once I had developed these questions, I invited back the research participants to work through the research findings as a group through a participatory group analysis interview. Seven out of the original 11 participants were able to attend. In the group participatory interview, the 'research findings' consisted of participant artworks, quotes from individual interviews, and the questions that were located through diffractive analysis. The group interview started by each participant introducing themselves and their practices. After this, we looked at each other's artworks that were accompanied with quotes from the individual interviews. Throughout the artwork portion, participants chimed in with questions, comments, or explanations about certain works. Following the artworks portion, participants engaged with the questions that were derived from the individual interviews through diffractive analysis. Questions, concerns, and further discussion were promoted through these questions. Originally, I intended to use the group analysis as a final method of analysis. However, it also served as another data collection method because many new ideas came forward throughout the process. This led me to consider a final stage of data analysis that included all of the transcripts and field texts generated thus far.

The transcript of the group participatory analysis was then used for the final stage of research analysis. Through analyzing this transcript and re-examining the field texts and transcripts from individual interviews, I located both challenges and possibilities. In order to locate these themes, I employed the constant comparative method in order to 'tease out similarities' between

the answers to the questions (Butler-Kisber, 2010). The constant comparative inquiry involves portions of field texts being reassembled in a back-and-forth approach into more refined categories, broken down, and reassigned names or codes either manually or electronically. As constant-comparative analysis is an anthropocentric research analysis tool, I attempted to employ this method through a diffractive lens. In order to do this, I avoided coding the data into 'positive' or 'negative' categories and decided to keep the eight categories quite broad in order to include as many diffractive instances within the research data. Further, I made note of how each participant's situated knowledge differed in order to tune into their differing experiences of education, art-making, and ecology. Overall, using a diffractive lens while organizing data led me to consider participant ontologies and seek out differences within similarities and similarities within differences. Therefore, this thesis will function more as an assemblage of perspectives and moments that bring up further questions and areas for further research rather than a focused 'answer' to a research question.

3.6: Research Summary

The research contained in this thesis traverses a range of challenges and possibilities for enacting eco-responsible art education in learning settings. Since this research followed a diffractive participatory analysis framework, the research findings took a life of their own that was far removed from my expectation (Alpaslan & Bowd, 2010). As the community was heavily involved in the research, I found it important that the research findings echo a wide range of community attitudes on the challenges and possibilities within the field. An important question regarding the notion of challenges was asked by a participant during the group interview,

When you say challenges, are you implying there is one agreed upon idea of what an

ecologically conscious art practice looks like? Are we accepting that the definition or

the boundaries of an ecologically friendly art practice looks different for many groups

of people or individuals based on those different views? Or are we agreeing on one

thing, and these are the obstacles towards that one more cohesive idea?

After this question was asked, we all discussed how the data set contains many differing view-

points of what an eco-responsible art practice could look like. As the auto-ethnographic portion

of the research followed a materially embodied collaboration with natural materials, a wide array

of perspectives and ideas came forth through this process of becoming-with art material. Due to

the array of voices, perspectives and material realities in this thesis, I found it necessary to high-

light this multiplicity rather than reduce eco-sustainable art practices to a singular vision. The

'material challenges' portion of the research findings will highlight numerous perceived chal-

lenges in relation to a variety of eco-sustainable visions for art education, including and not lim-

ited to issues of art's contemporary ethos, disposability culture, institutional setbacks and the

climate crisis. The thread connecting all of these instances are the separatist thinking implicit in

events of colonial logic (Watts, 2013). Therefore, this section will be called 'Challenges in AE

(Dualistic Thinking and Anthropocentric Art-making)'. The following chapter will delve into a

range of possibilities for EAE presented by educators such as responsible materiality, communi-

ty-building through sustainable making, critical cultural reflections and posthuman pedagogies.

Throughout these wider 'themes' or 'topics', an array of voices and perspectives will be high-

lighted. Throughout this chapter, I will be exploring the findings connection to the theoretical

underpinning of new materialism. Therefore, this section will be titled 'Possibilities for AE (Becoming-with the Junk Drawer)'.

4. Challenges in AE

(Dualistic Thinking and Anthropocentric Art-making)

The overarching purpose of this study is to provide a comprehensive analysis of EAE in an effort to pave the way for further in-depth exploration into the possible implications of new material ontologies for the intersection of pedagogy, art, and environmental crisis. In order to present possibilities, I believed it to be necessary to first address areas of challenge that were expressed by research participants. Without insight into the complexities of engaging with EAE, presenting possibilities may be idealistic and futile. Further, as the possibilities that came forward throughout this study often had to do with material recentering, I felt it was important to provide insight into the current anthropocentric structure of AE. In other words, many of the challenges presented throughout this chapter arise out of the same humanist orientation of anthropocentrism. Even further, some of them shed light onto colonial logic's tendency to favour certain bodies over others depending on their positionalities (Watts, 2013).

As environmental disaster is experienced diffractively depending on one's positionality, I felt it would work against the guiding theory if I were to synthesize concrete themes from the data. I did not want to potentially erase participants' experiences through heavy coding and interpretation as I believe that solutions to the environmental crisis must account for nuance and complexity. In order to amplify a range of insights and experiences, I used a diffractive approach for both analyzing and discussing the data (Taguchi, 2012). This means that this chapter introduces many perceived challenges in EAE that are separated into three broad ideas - hopelessness in the face of industry, the social imaginary of art, and 'disposability culture'. Rather than including a section that shows the data analysis and a separate section that encapsulates a scholarly

conversation on the data, I decided to document the results and discuss them simultaneously in effort to showcase this research with nuance and depth. To do this I will be drawing on the words of the 10 educators: Camila, Sadie, Irmak, Mikaela, Matthew, Sarah, Joelle, Pandora, Leila, and Malaka. Unfortunately, one of the interviews had to be left out due to technical complications with the recording. I will begin the chapter by discussing challenges that educators said they faced within their practices due to the powerful nature of institutional structures, then I will explore how the social imaginary of art impacts possibilities for EAE and lastly, I will illuminate the hindrances that disposability culture poses on EAE. Despite being presented as divided, many of these challenges share in common the same foundation of dualistic thinking and anthropocentric approaches to ecological relations.

4.1: Hopelessness in the Face of Industry

As discussed in the reviewed literature, EAE can be a catalyst for students to engage with larger systemic issues (Finley 2012, Illeris, 2012, Hicks, 2012, Bequette, 2014). Although this is true, this research study revealed that the same systemic issues that EAE can address often - in opposition - stand in the way of educators practicing ecologically-responsible art-making within art education. One aspect of the data that points towards this is the way in which research participants alluded to feelings of hopelessness in the face of larger industrial and institutional structures and actions. Industrial practices are anthropogenic in nature and therefore centre human narratives with little to no regard for ecology (Karatas, 2016). Further, the anthropocentric roots of industrial practices centre the white colonial subject and therefore diminish the humanity of exploited subjects (Watts, 2013, Liboiron, 2020). Although the participants involved with this project devoted themselves to create, teach, and consume responsibly, they felt as though the ma-

terial realities posed by larger corporate and institutional entities seemed to discredit the hard work being done by them on an individual level.

In order to amplify the concerns of research participants, I will begin this chapter by discussing the broader ways in which the notion of institution and industry were discussed during this research project. To do so, I will be addressing the consumerist and exploitative nature of art-making materials, issues of profitability and preservation in the art industry, and the presence of supply monopoly and uniformity in educational institutions.

One area that was addressed by most, if not all participants throughout the individual and group interviews were the bounds of art materials as consumer products. Not only are these materials mass-produced and therefore toxic to our bodies and environments (Government of Canada, 2012), but it was agreed upon that they can limit people from seeking out more ecological, materially-centered ways of creating art. As environmental art-making is often done with materials that are found outside of commercial art stores, consumer reliance on such stores could limit the potentiality of a wider motion towards environmental art-making. Sadie - an embroidery artist, spoke about the how art-maker's freedom of exploration is limited due to the nature of commercial art stores,

Since everyone shops at commercial art stores for their art supplies there is less freedom for people to explore other methods. I think a huge block is that most people don't even know that they can create environmental art. If people were exposed to other things outside of their realm, then maybe their imagination would expand.

In a similar vein, Malaka, an art educator and avid environmental art-maker suggested

that if materials were not so readily available, it would be easier to develop ecological-

ly conscious and creative solutions,

> *That was one advantage of the pandemic, which was that there was a period*
>
> *where you couldn't buy anything. Everything was closed. I was making jewelry*
>
> *and then I needed a chain for a necklace and I couldn't buy a chain, so I decided*
>
> *to make my own with things I already had. I think the constraints can create cre-*
>
> *ative opportunities.*

This idea that commercial production must come to an end in order for people to engage with

environmental practices may seem extreme, however, many post-growth and environmental

scholars believe that degrowth and post-production are necessary steps in healing a wounded

planet (Blühdorn, 2017 Singh, 2019, Soper, 2020). Moreover, Indigenous scholars have been

working at the forefront of extractive violence and calling for the end of commercial production

for decades (Alfred & Corntassel, 2005, Willow, 2016). Currently, art-making - although a pow-

erful agent for social change, remains reliant on the same environmentally destructive methods

of production and exploitation as many other industries of consumption.

How is art trapped in the same cycle of exploitation as other forms of consumption and

profit generation? As explained by Resnick and Wolff (2003), implicit in capitalist forms of con-

sumption is the harsh reality of exploitation. Camila, who is an environmental art educator and

interdisciplinary artist, discussed their movement towards ecological materials once they began

to understand art as trapped in the same cycle of exploitation as other forms of consumption,

I did a residency where I learned that in every artwork there is an exploitation

through extraction of either the land or other people so it's about making con-

scious decisions about the lesser of the evils. I think that's when I made that shift

of going more into the natural dyes.

Methods of natural art-making using either second-hand materials or foraged materials can allow

an artist to remove certain levels of exploitation, however, this does not mean that the challenge

of exploitation simply disappears. For instance, despite being able to seek a more responsible

method of art-creation through 'natural' methods, Camila felt hopeless in relation to the actions

of larger institutions and even remarked on how her own homelands have been subject to the ex-

ploitation she is trying to heal through her artistic practices,

I feel like a depressed, hopeless person at the moment. I feel like I'm not doing

enough, but at the same time I'm doing a lot more than other people are. A lot of it

has to do with corporations and the exploitation of my homelands and other peo-

ple's homelands, so a lot of it makes me feel hopeless. It makes me feel like there's

not a lot that I can personally do.

Hopelessness in the face of larger institutional actions was interwoven through the research find-

ings through a range of perspectives. Although environmental art-making provides freedom from

certain aspects of exploitation and consumption, feelings of hopelessness still arise due to the

vulnerability of the exploited subject in a system that values certain lifeforms over others.

In addition to adhering to exploitative practices, the documentation and preservation of

art ties art-creation to the modalities of profit and growth. While considering the larger institu-

tion of museums, Matt - an art educator and creative reuse artist stated,

There is a lot of waste that happens within the art world. There are so many

paintings not just in the showrooms of museums but in their archives, like 50

times more work in the archive that's just sitting there being preserved. And all

that energy and all that time is spent towards things that are from the past that

have possibly no relevance to the times that we live in right now.

Art museums as institutions preserve art as it grows in profitability and therefore biodegradable art may have trouble existing in a museum setting. Irmak - who is a researcher and environmental maker - discussed how museum ideas of preservation trickle down to the consciousness of the art-maker,

I would like a way of engaging with natural materials in an ephemeral way and

not wanting to preserve it. I don't think natural materials are meant to be pre-

served, and I mean, we could argue what they're 'meant to be' but when I was

back in Turkey, there was a wild olive tree and the olives were blood red. I collect-

ed a bunch and made a color scheme of all the ones based on how dry they were.

But when they dried on paper, versus when it was in my hand looked completely

different, so then I gave up and I just accepted that that bright red is only going to

exist in it's like olive form and I can't contain it or preserve it.

Further, Irmak explored how art that attempts to function outside of modality of profit inevitably becomes profitable through documentation,

That makes me think of the people who do art with sand. And then it just flies

away. That is very radical as an existential mode for any kind of art. But then,

does even that get commodified or get absorbed?

Here, Irmak touches on how artworks that are intentionally made to be 'ephemeral' in nature are not so in their documentation. This is notable while considering how transient earthworks now exist in the form of photography in museum settings and how documentation photography partly came to fruition because of the ephemeral nature of the earth art movement (Boetzkes, 2010). Although art may strive to be environmental, through processes like extraction, preservation, and archiving, artworks often succumb to practices that are inherently anthropocentric and therefore, environmentally destructive. That being said, participants also expressed how as individuals they felt 'trapped' in performing these processes by larger powers, making it challenging to move towards truly environmental art practices. When asked to elaborate on the question "what is blocking us from an environmental shift in art-making and art education", Irmak responded,

> The biggest block is that we're still living within the bounds of a capitalist system.
> At the bare minimum, your livelihood and your capacity to survive in a given context is determined by this system. If in any way your livelihood relates to your mode of creation, then inevitably your mode of creation is influenced by the rules by which that livelihood must follow. You need to make money in the terms of making money in a given context.

Here, Irmak comments on how our survival is reliant on our performance within a capitalist system which impacts the way makers create art (and then the ways in which educators must teach art).

Along with viewing the broader modalities of extraction, profit and consumerism as challenges in moving towards a responsible EAE, educators also felt blocked by the educational institutions they function within. The two main points that came up during the discussion of chal-

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lenges within educational institutions was the lack of institutionalized support for EAE and the expectation of uniformity in learning settings. The majority of the participants of the study were teaching in community settings. However, there were a few participants who worked in school settings that focused more on the limits of educational institutions throughout their interviews. Matt - who has a highly developed creative reuse practice and teaches at a local high school spoke to how educational institutions are not built to facilitate environmental practices and also honed in on the lack of time and support for educators in school settings,

There's always a better choice that can be made and there's always art projects that can be made around making better choices and that's really up to the individual, but then if we are always fighting against an institution that has not adapted itself to make to make those better choices then we always end up in the same place 'cause we're exhausted by the effort that we need to put into doing something that is not the norm. It takes a lot more time and a lot more energy with the way things are set up. I think that's the problem, the lack of time, and the lack of priority for teachers to have the resources and time.

Matt was frustrated with the lack of responsibility and action taken by educational institutions during the current climate emergency. He expressed hopelessness when discussing the pursuit of EAE within the larger educational institution and described exhaustion with the individual burden he had to take on to make EAE a possible reality for students. A similar feeling came up in the auto-ethnographic field texts,

Although the foraging and ink-making practice has had the power to turn me into a more ecological agent, I have been having difficulty imagining this prac-

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tice existing in a classroom setting. The expectation is often that the student cre-

ates a uniform product, which is very difficult to obtain through environmental

art practices.

In this segment, I describe a discouragement with the possibility of engaging with environmental

activities in school settings not only due to the lack of infrastructure but also due to the expecta-

tion of uniformity. The idea of uniformity came up in conversation with another participant who

discussed how the uniform and centralized nature of educational institutions led to a supply

chain monopoly. As an example, he mentioned how art educators working in educational institu-

tions have to order the supplies from the same place and in the event that a teacher decides to

order from elsewhere, they are often not compensated for this expense,

Whether it be Rosemount or any other school in the EMSB that they all have

the same supplier. So you have to buy those materials from that person and if

you try to buy elsewhere, it's a huge deal and sometimes they don't want to re-

imburse you. So it's problematic in the sense that as an organization, they want

to limit the amount of things that they have to do administratively.

This relates to a challenge mentioned earlier in this section where participants observed that mo-

nopoly over consumer art supplies led to a block in the creativity that is necessary to engage with

more ecologically responsible and materially-centered methods of art creation.

As the research participants of this study function within different educational environ-

ments and come from a variety of cultural backgrounds that have ranging vulnerabilities in a

capitalist structure, there is a wide variety of institutional blocks to their individual experiences

with EAE. Highlighting these differences is crucial as the climate crisis is not experienced equal-

ly by all (Liboiron, 2020, Soper, 2020). The experience of hopelessness in individual action in the face of larger institutions is what fuses together these diffractive instances.

4.2: The Social Imaginary of Art

Another challenge that was brought forward by art educators during this study was the way in which harmful industrial practices have led and continue to lead to a contemporary social imaginary of art that reinforces negative relations to the environment. Participants discussed how industrial practices and environmental destruction are born out of and reproduce notions of cartesian duality and normative dualism. The reproduction of such notions directly impacts the way in which artists are expected to make and view art. In western modernist art, it is most common that there are three elements of fine art; "the spectator, the space of viewing, and the object that is viewed" (Helmers, 2004, p. 65). The museum as a modern institution seeks to transmit objective and universal truths (Kincaid and Steinmann, 2020). The art object is the pillar of the museum as it is responsible for the messages transmitted to the spectator. In the past century, this traditional view of art-making and art institutions has been broken through postmodernist conceptions of art, yet items that remain intact are the embedded ideologies of cartesian duality, normative dualism, and the capitalist modality on the contemporary art ethos (Ravisankar, 2019). Normative dualism refers to the division between fine art and utilitarian and "low" art. In its essence, normative dualism is born out of cartesian duality as fine art is associated with the mental processes involved in its appreciation and craft is related to the role the human body has in its creation (Quevedo, 2012). It is believed by posthuman and new materialist scholars that divisive dualities promotes the notion of the objectifiable 'other' that can be exploited for human benefit (Bateson, 1972; Berleant, 1995; Plumwood, 1993, 2002; Skolimowski, 1984; White, 1967). Further, it has

been argued that the deeply rooted western cultural understanding of nature as objectifiable 'otherness' leads to exploitation and environmental destruction. It is therefore important to consider these current conceptualizations of art-making in order to move towards an ecologically just model of art education (AE). Throughout this research, educators voiced concerns related to the western ethos of art and its impact on environmental destruction. In this section, I will be exploring these concerns through the voices of research participants, specifically addressing the impact normative dualism and cartesian duality have on human/art and human/environment relations.

I will start by discussing the presence of Cartesian duality in the EAE classroom as this precedes and eventually leads to the craft/art divide. In this study, the idea of cartesian duality came forward when participants discussed traditional, western colonial outlooks on art-making. While exploring her conscious shifts towards material and community in both her art and teaching practice, Leila expressed disappointment with the current conceptualization of art within art education spaces,

> *I was talking about these ideas with one of my professors during my thesis defense.*
> *I was saying that the process of art can be seen as art in and of itself. But he said*
> *that their parents want to see what the kids make, like objects, artworks, some exist-*
> *ing artwork. I think this is one of the problems because we have a very traditional*
> *view of art. We think that sculpture or paintings are the only kind of artworks and*
> *we want our children to do this and learn this.*

The creation of art objects that exist through the eyes of a spectator is rooted in cartesian duality and therefore linked to western conceptions of art. These traditional views of art-making are so foundational to practice and theory that even if art education becomes environmental at the lev-

els of early childhood education, middle school and high school, these traditional methods of art-making are expected in higher education environments as students prepare for exhibition. This point was discussed by two participants - Pandora and Joelle - during the group interview in response to the question "What does it look like to make art without relying on industry? If art was separated from industry, what would art look like?" :

> Pandora*: I think art education at all levels would have to support that, including people who are doing studio courses and universities who don't really have that much of a choice right now. When I was in University, the professors told us exactly what we had to buy at the start. So we'd have to buy that tube of paint or buy that paper as if that was the 'textbook' of the course.*
>
> *Joelle: I would say that the teachers or professors are more open now about what materials we can use, but what's not taken in consideration is the experimentation part that comes with using found material, because there is a big level of experimentation with this. Also, there's a mindset that experimentation sometimes comes with what some call failure, but is it a failure? It's like just stop calling it failure and just call it pure experimentation and learning.*

Joelle remarks on her onto-epistemological experience with a narrow conceptualization of art-making. In her lived experience of learning through art, she gathered that an artwork is something that has to be pristine and free of error. This conceptualization, of course, works against the notion of using found materials and committing to a process of rigorous experimentation. A later comment that was made by Camila remarked on the relationship between exhibition and repurposed materials, which further spoke to the conceptualization of art as deeply rooted in cartesian

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duality and connected to industrial practices. She reflected on the process of selecting artworks to share throughout the research process,

> *It was interesting having to be asked to make a choice about what artworks to show because the pieces I chose are not in my art portfolio. So to me, in some ways there is still a bit of a divide between the sustainability and the professionalism of art. Maybe materially, I haven't gotten to the place where repurposed materials look worthy of exhibition. I think that's just like an interesting thing I'm noticing that I realized through the process of selecting.*

This remark led to questions regarding how environmental art-making may succumb to normative dualism through its consideration as a craft rather than a fine art. This may be due to the rigorous experimentation necessary for the production of environmental artworks, mentioned earlier by Joelle.

In AE, educators typically teach students how to create art objects that are then viewable by spectators. Although integral to the art-making process, material entanglements are often overshadowed by the engrained ideologies of normative dualism (Ravisankar, 2019). Crafts are normally taught in other classes like Home Economics rather than in fine art classes. In the past few decades, many scholars have challenged the divide between fine art and craft (Mreiwed, Carter and Mitchell, 2020, Inwood, 2010 Garoian, 1998), and the modernist distinction between maker and made (Graham, 2007, Jackson, 2002). Despite this, many AE classrooms are still built upon the modes of normative dualism and cartesian duality. This makes infusing AE with environmental engagement challenging as our conceptions of art have the power to change our relationships to the environment. As mentioned earlier, normative dualism is a product of cartesian

duality as 'fine art' is associated with the mind and craft is related to the role of the body. Sadie

discussed this divide while exploring her embroidery and clothing-making practice,

>*I think that there is a huge divide between art and craft because of utilitarianism.*
>
>*I'd like to think people could conceive of useful items as artworks. I feel like where I*
>
>*am at, I just want to make clothing. Which is very much a utilitarian thing. But it's*
>
>*also a form of expression.*

In this comment, Sadie argues that an artwork's utility should not confine it to the label of 'craft'

and that doing this could lead to further division between art and craft. Research participants ex-

plored normative dualism as an ideology that is inevitably challenged by methods of environ-

mental art-making. Further, they argue that the social imaginary of art should shift in order to re/

produce responsible environmental practices.

Throughout the auto-ethnographic portion of the research, normative dualism and carte-

sian duality influenced the art-making process. Although I set out to do the research as the pri-

mary agential force, my intention was to listen to material entities and shift my conceptions of

the art-making process accordingly. Through navigating the art-making process through a new

material approach, I aimed to widen my perception of art-making to include process and interac-

tion with more-than-human others. Despite having the intention to listen to and collaborate with

material-others, relationships of duality inevitably arose and I found myself having to work past

deeply rooted conceptualizations of art-making in order to collaborate with material 'others'.

The conceived boundaries between myself and material 'others' led to impatience, feelings of

failure and even perceived loss. As I spent many years as a painter, shifting materials through

seeking out a materially-informed art-practice impacted my confidence with art creation. At

times, I felt impatient with the plants I used for inkmaking and the recycling I built and constructed paper with. The artworks often followed the material rules of ephemera rather than the human expectations of preservation. For instance, ink was quick to fade away or feed on handmade paper. Moreover, the materials were difficult to 'tell what to do' and instead had a life of their own. The following section of the auto-ethnographic field text summarizes the aforementioned moments succinctly,

> *Painting with ink is very different from painting with plastic paint. The results are*
>
> *unpredictable. The technique lies in the ink-making and paper-making itself. When*
>
> *it comes time to drawing, technique is hard to follow as the materials will do what*
>
> *they choose.*

This made it difficult to feel 'skilled' as an artist as the skills needed for this kind of material-making were patience and gratitude. At first, I considered these moments as challenges due to the Western foundational conceptualization of 'art object' as long-lasting, directed by a 'skillful' individual. However, I began to notice that these moments were more likely to occur when I was aligned with an older ethos of art-making and that I had to realign with my more-than-human collaborators in order to learn important lessons that could lead to an eco-conscious shift. This is evident in the following field text section,

> *Foraging is the part of my research process that taught (me) the skill of patience and*
>
> *reciprocity. Inkmaking has made (me) recognize that colour is trapped inside of*
>
> *everything just waiting to burst out, (I) see what (I) previously considered 'inani-*
>
> *mate' as alive with mystery. (I) now consider each being as alive and worth tending*

to and forming reciprocal relationships with. It is no longer about (me) making an

artistic product. It is about belonging-with and becoming through making.

As I moved through the auto-ethnographic process I became closer and closer to be-

longing-with (see fig. 2-4 below).

Figure. 2. Two framed inkworks on handmade paper. June, 2021.

Figure 3. Documentation of ink quality on loose paper. August, 2021.

Figure 4. Berry-stained hands plucking ripe buckthorn berries. September, 2021.

I started the process wearing gloves while berry-picking and putting the 'artworks' in frames. I ended the process with hands permanently stained with berry juice and finding artistry in the foraging and creating process rather than in the final artwork. These transformations were most obvious while looking through the photographic documentation.

Overall, one of the main obstacles for achieving eco-conscious art-making that came forward throughout this research was the dominant presence of a social imaginary of art that is ideologically rooted in environmentally destructive practices. This concern came up in many different ways in both through participant interviews and auto-ethnographic field texts. An important question moving forward is the following - 'how can makers move past the cartesian dualism that is embedded in both extractive industrial processes and art-making in order to move towards an environmentally conscious way of creating?'

4.3: Disposability Culture

Along with defining the social imaginary of art, industry defines our relationship to materials. One material relationship that was identified as a challenge in moving towards EAE was the prevalence of disposability in art education. The term 'disposable' is often used to describe the planned obsolescence of most objects consumers come into contact with in contemporary society (Liboiron, 2020, Davis, 2012). Often, disposable objects come in the form of petroleum-based plastics and only recently have bio-plastics begun to be re-introduced at a consumer level (Rahman et. al, 2021). While discussing the toxic histories of plastics, Davis shines light on the relationship between throwaway culture and the plastic industry through retelling the story behind the invention of throwaway culture. She explains how initially, plastic took the form of bio-plastics that were intended to solve the issue of animal endangerment by mimicking materials like tortoise shell and ivory. Later on, fossil-fuel based plastics were developed for military use and after the second world war, were transferred into people's houses. At first, the public was very skeptical about these products and therefore had to be taught how to partake in throwaway culture. Eventually, disposable items began to teach us how to consume. Hawkins (2019) describes how disposability is an example of how things design us, suggesting an entanglement of our habits and consumptions. Today, throwaway culture pervades globalized culture, including the culture of education.

Disposability culture in art education is directly connected to the ethos and expectations of art-making. Majority of the research participants - despite being eco-art makers, connected the ethos of art to the traditional categories of painting, drawing and sculpture. Although these art forms can be done in an ecological way and were initially done using entire biodegradable mate-

rials, industrialization led to the creation of art-supplies that were made to be thrown out after use. The availability of petroleum-based plastics eventually led to the creation of art supplies that were dependent on the petrol economy and the growth economy (Hawkins, 2019). This study found that one of the main challenges within EAE regarding materiality is the impact of disposability culture. Most - if not all - of the involved research participants remarked on the amount of waste produced in their art education learning settings. Rather than only remarking on the material residues of throwaway culture, the anthropocentric theoretical foundations were often mentioned. Further, the deeply embedded nature of throwaway culture came forth in the auto-ethnographic component of this research. In the following section, I will be discussing educator relationships to creative reuse, emotions towards disposability, and the impact of throwaway culture on AE.

The reviewed literature shows an emphasis in using creative reuse in EAE as a tool for engaging students in critical art education (Sang, 2010 Girak, 2019, Garber, 2019, Inwood, 2013). Contrary to the reviewed literature, this study found that educators were disappointed with certain kinds of creative reuse in both their art and teaching practices. While discussing the nuances to creative reuse and recycling art, Pandora shared,

> *The first issue that I have with the art recycling movement is if you're recycling then you're making a thing that is then gonna go into the garbage. You can go online and find a cute little project where you recycle a plastic bottle and then that plastic bottle just gets another half life of six months and then it ends up in the garbage.*

In the group interview, she discussed that there is "a hierarchy of recycling" where single-use recycling often gets remade into one other art project and then thrown away, therefore annihilating the opportunity for this item to ever become materially recycled.

Another topic discussed in the group interview was the question, 'does reusing single-use plastics for art-making justify their material existence?' We decided that if reuse wasn't placed on the consumer and artist, there may be further incentive in abolishing the industrial practices that lead to single-use materials. During this conversation, research participants discussed that they value the creative reuse of meaningful objects more than the reuse of single-use plastics. Both Joelle and Sarah create artworks reusing personal meaningful items. Sarah reuses the wood from her generational family cottage to create meaningful art objects (see fig. 5-7) and Joelle reworks old found crochet projects into new artworks. In both of these artistic instances, creative reuse moves away from single-use disposable items and instead navigates a personal and narrative realm. We discussed how the inherent disposability of single-use materials may end up teaching disposability rather than creative usefulness and meaningful reuse.

Figure 5. Sarah's small tables and dressers made with reclaimed cottage materials. The dresser is made from the doors of the cottage.

Figure 6. A chair constructed and painted with reclaimed cottage wood.

Figure 7. Joelle's chair constructed with her grandmother's unfinished granny squares.

This study revealed a range of difficult emotions educators experience while confronting disposability in art-making and art education. While navigating her experience with the lifetime and inherent disposability of art objects, Irmak remarked,

> *It's a weird emotional attachment where I no longer want to keep this, but at the*
>
> *same time am I going to destroy it or what? Obviously I can reuse it, or give it to*
>
> *somebody who will reuse it, but I question how do I dispose of it and what are the*
>
> *terms in which it needs to be disposed of?*

This comment explores the embedded nature of disposability in both 'traditional' art materials and creatively reused ones and how this leads to hesitancy in the creative process. In addition to hesitancy, educators expressed the heavier emotions of frustration and grief while discussing the disposability and waste inherent in art education. During the one-on-one interviews, Mikaela exclaimed,

It kills me at the end of the year with how much stuff is thrown out. The problem

is, in my experience of teaching in public schools, people don't really care about

the environment. It doesn't seem to be a priority, especially now with COVID. I

think everybody is in survival mode. No one cares.

She later expanded that part of the issue with disposability is that it falls on the art teacher and

students who have little time to properly dispose of items. In their essence, art materials and

reused items in school settings are usually disposable. This places most if not all of the responsi-

bility on the art-maker and art teacher. The repercussion of this is that art education becomes a

subject that teaches students how to consume and dispose rather than how to live in responsible

relationship to the environment and the materials it generously gives.

Throughout the auto-ethnographic portion of the research, I navigated how the engrained

lessons of disposable art materials permeated my experiences with nature-based art-making. In

the following poem, themes of disposability and the sensation of nature being foreign are ex-

plored,

toiling down sun street friday with blessed
poppy and a net sac sour
new growth Sumac in the air - think
of ink and disappointment - talk
of factory-sweat colours and crave
them but the Sumacs
may cure my ceaseless wanting with pale slow gifts
hobble up to the trees like two lost dogs
there it is
old dusty shrivelled organ of a Sumac hanging off a branch
but the new one gleamed first and (i) ripped it off with lust
blessed poppy speaks
          "new fuzzy berries are all pale at the centre
but the shrivelled organ Sumac bleeds
like a heart would in the sun"
we throw my plucked-too-soon flowers into
the train-tracks
          (me), greedy addict sad consumer
          Sumac, dead on the tracks
(i) bite the old dusty berries off the branch
they stain my hands a sour red

In this poem, I reflect on an instance where I impulsively picked a bunch of Sumac that was not yet mature which led to a circumstance of careless disposal. At the end of the poem, I reflect on the sensation of having blood-stained hands due to the way disposability culture has impacted my behaviour. Reflecting on this poem made me think about how the very idea of disposability is imbued with a lack of gratitude and appreciation for living things. Davis (2012) speaks to this through discussing how replacing petrol-based single-use plastics with biodegradable single-use plastics does not change the root cause of the issue which is the very disrespect of biotic 'others'. The overarching idea of disposability in and of itself can lead to harmful relationships to the more-than-human world.

Heavily connected to the ethos of art and born out of contemporary industrial practices, disposability pervades the AE classroom. Although the participants of the research study expressed disdain for the polluting qualities of the art materials they have to use in the classroom, the lessons of consumption and disposability communicated by traditional art materials were of equal concern. As participants recognize the inconsequential size of their consumption in the face of industrial pollution, they often viewed art materials as potential educators and healing agents rather than only as future pollutants. Participants were not as concerned about the inevitable pollution as they were about students not being exposed to more environmentally responsible options. As such, participants called for a reimagining of art-making as not separate from pollutant processes but as holistically connected to the more-than-human world.

Although this chapter explored the areas of challenge within EAE, covering these grounds was by no means with the goal of disenchanting inspired minds. Presenting only the possibilities would not have painted a whole picture of what it truly means to explore the impli-

cations of new material practices in EAE. While transitioning out of environmentally destructive ways of being and thinking, rubbing against challenges is inevitable. The challenges presented in this chapter are not inherent to EAE but simply stand in the way of achieving an ecologically responsible art education. As the underlying thread connecting the aforementioned challenges faced within EAE are dualistic thinking and anthropocentric approaches to ecological relations and art-making, the following chapter will think-through what material recentering can encourage.

5: Possibilities for AE

(Becoming-with the Junk Drawer)

Through traditional art-making methods, the artist is often positioned at the centre of the artistic process. It is presumed that the human at the centre is what fully determines how the artwork is made. When the artwork is done it is the artist's name that is shown in the gallery and the artist is the one commended by peers. In this act of centering the art-maker as the primary creator, many intra-actions are erased. This erasure has profound implications in how material is rendered and consumption is enacted. Further, the presence of this erasure in learning settings can eventuate its cultural proliferation. In the previous chapter, a relationship between dualistic thinking and anthropocentric art-making was identified and a rooted connection between anthropocentric consciousness and environmental exploitation was explored. In this section, I will address the question "what happens when makers move away from anthropocentric modes of creating art and instead learn to become-with the junk drawer?" in order to explore how new material methods of art-making can lead to reorienting and reinventing (rather than circumventing). In order to do this, I will address specific ways in which more-than-human agents can help students, (1) belong-with the environment (2) recognize material animacy (3) create new meaningful connections (4) embrace precarity, (5) form interconnected communities. As there was a certain futility in sectioning off these possibilities, I wove the ideas of passivity, animacy, and entanglement through each section (Barad, 2007, Watts, 2013, Kimmerer, 2016). The reviewed literature shows us that environmental art educators have turned to posthuman pedagogies as a way of addressing these challenges to AE learning settings (Barrett, 2015, Odegard and Rossholt, 2016, Bentz, 2020, Ylirisku, 2021). In a similar vein, this research turns to new materialist pedagogies

in order to uncover how material recentering can aid in the development of ways of being-with a changing world.

5.1: Finding Abundance through Belonging-With Material Entities

Often, at the apex of the participants materially discursive art practices stood a process of moving away from anthropocentric ways of art-making through listening to materials. Environmental art-making and creative reuse both force artists to belong-with material realities rather than dictate them. Instead of approaching an artwork as the creator at the apex of the artistic process, this study found that environmental artists are more likely to listen to their materials. The implications of moving away from anthropocentric art practices through recentering the material are profound as this reconfigurment has the ability to position art-making as a conduit for belonging-with the environment rather than a method of controlling the environment. This is important as belonging-with the environment has the ability to promote gratitude, abundance-thinking, and environmental relationships. In the first section of the previous chapter, I went over ways in which participants felt hopeless in the face of 'dominator culture' (hooks, 2003) despite their energetic and powerful engagements with environmental making. Although this hopelessness seems pervasive, the participants involved in this study continually returned to environmental art-making as a beacon of hope in the face of hopelessness. This is evident within this section as it discusses the findings which led to the discovery that through promoting belonging-with the environment, environmental art-making promotes mindsets of gratitude and hopefulness such as abundance-thinking and a 'wholeness' mindset (Jones and Hoskins, 2016).

Throughout this study, it became clear that re-centering materials led to different forms of environmental consciousness. This idea was explored by Pandora during our individual interview

when we discussed a public art piece in Montréal that was made out of 'recycled' plastic bags. She mentioned that the makers of the piece had a specific idea and not enough plastic bags to fulfill their vision. Because of this, they had to go purchase plastic bags to complete the project as it was designed. She said that if the creators of this project were materially-centred, this would not have happened. Further, she suggests recentering the material as a method of achieving environmental consciousness,

I'm thinking that this idea of letting your materials tell you what to do with them makes us avoid situations like having to go buy more plastic bags because we had this expectation of what we wanted the art piece to be that wasn't fulfilled by our materials. We must shift from what we want our materials to do and consider what our materials want us to do in order to be environmental.

Here, Pandora describes a process of listening and collaborating with materials in order to live environmentally. Becoming materially-centred is as Illeris (2011) puts it, a way of "living within the capacity of our supporting ecosystems" (p. 78). Through connecting us to the true capacity of our ecosystems, materially discursive practices can have the power to not just change how makers create but may eventually change patterns of consumption. This notion came up during an interview with Camila where she discussed her materially-focused shift in consciousness,

Repurposing materials has created a consciousness shift for how I consume, but also vice versa, in the sense that a lifestyle consciousness shift has made me change the way I want to approach my art and I think that's very applicable to teaching. I've been doing natural dye workshops and it feels very gratifying because I think it could have a longer lasting effect on other people's lives. Seeing

the onion skins you would throw out all of a sudden, becoming a beautiful amber

orange is a really magical process.

In this excerpt, Camila discusses the strong connection between her consumption habits and her art practice. Further, she suggests that her shift of consciousness now has the ability to exist onwards through her teaching practice. Through her natural dye workshops, learners see the potential abundance of waste or local fauna and foliage.

Another research participant - Matt - has spent years collecting detritus off neighbourhood streets to use for his art-making practice. While discussing his art practice, he alluded to the aforementioned dichotomy between controlling materials and collaborating with materials,

I find a lot of artists will go towards making some of these very pure where every-

thing is new and everything is there has been chosen by the artist and I'm actually

kind of on the opposite spectrum in that I just use whatever is around me. While

collecting objects off the ground I've kind of created my own little imaginary phi-

losophy about all that stuff. I think that nature is an artist and one way I can col-

laborate with nature is by making art.

He discusses his practice as a way of tuning into the ecosystem of a city by allowing him to experience the city as its own 'natural' environment, *"I also really do think that the city itself is an ecosystem just like any other ecosystem."* He then describes his art practice as centres around 'nature' and is based in viewing 'nature' holistically,

At its core, art is always about 'nature'. In 'nature', when something is discarded

it becomes the food for something else. My role as an artist is to take what has

been left behind and to make something new from it. I like to imagine those paral-

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lels as being like part of it. I don't focus on 'nature' from a place of disconnection

and isolation. My practice is more of a way to view 'nature' holistically.

Here, Matt alludes to transcending the nature/human divide and belonging-with the environment by drawing parallels between his artistic process and the processes of more-than-human 'others' which led to a holistic environmental consciousness. Throughout our interview, Matt brought up the plentitude of material strewn across the city and how unnecessary it seems to buy supplies when our ecosystem contains such profusion. Overall, Matt's collection and creating process led to new environmental modes of thinking such as a wholeness mindset and abundance-thinking (Jardine et. al. 2006). In a similar vein, Mikaela discussed how sustainable art practices can lead to gratitude and abundance,

I know my sustainable art-making has more to do with me trying to make myself

feel better rather than actually 'changing the world'. I think it brings me gratitude

and appreciation for what I have. Just generally in life and I think we are happier

people and nicer to other people and other beings when we realize we have so

much.

Here, Mikaela discusses how art practices that recognize material agency lead to gratitude and abundance thinking and delves into the larger implications of these modes of being.

A similar unfolding took place during the auto-ethnographic research. Throughout this process I engaged with creating my own art materials like ink, charcoal, paper and clay from biodegradable materials. In order to collect the materials I foraged on the train tracks, saved food waste, and collected paper scraps. The process of collecting materials aided me in becoming cognizant of material entanglements,

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Once I began to collect all of the paper that I encountered, I began to recognize

how paper enters and exits my life. This material comes into my life in the form of

information, such as receipts that show me what I bought, mail that tells me what

money I owe and to whom, or news that tells me what is happening in the world.

Due to the presence of information, the paper itself becomes materially ubiqui-

tous. Through collecting and making with paper, I could revive its material reality.

Through removing the written aspect of paper, I was able to understand paper in a deeply pro-

found way. Paper moved away from being merely a conduit of the written language and became

a material filled with potential abundance. Prior to the auto-ethnographic research, I would use

paper for writing and art-making everyday and often took it's materiality and existence for grant-

ed. I related to it as a passive agent that was only there to soak up my words and later be discard-

ed. Through collecting and making paper, I began to see potential and abundance in places I nev-

er imagined it - old journals, newspapers left on the sidewalk, even used paper towels. Once I

began to create with the foraged and collected items, I was able to further explore their material

and sensory attributes. At the end of the creation process, I was left with pieces of paper, clay

items, inks and charcoal that felt like the world's finest jewels. I had a profound gratitude for the

more-than-humans that helped create these items with me. Throughout this process, I found it

was crucial to listen to the materials rather than my own ideas. I would be only letting myself

down if I were to start with an idea as the true creators during this process were the material

agents.

Through tuning into participant voices and material articulations, this research study

helped further locate the profound implications of recentering the material in leading to different

forms of environmental consciousness. Through exploring the interrelationship between our bodies and material entities through sustainable art-making, makers can move towards ecological consciousness through reconfiguring long-held, harmful beliefs. In doing so, they can develop an abundance and wholeness mindset and form gratitude for their more-than-human counterparts - all essential skills for a changing world.

5.2: Recognizing Animacy and Enacting Care

Now that I have gone over some possible environmental implications of materially-discursive art practices, I will introduce how creative reuse can help makers recognize material animacy and turn the artmaking process into a practice of care and stewardship for the material world. In both the reviewed literature and in the study so far, it is clear that there are different approaches to material reclamation. One of the aforementioned problems with creative reuse is that it has the potentiality of teaching disposability if makers are primarily creating with single-use plastics and other recycling materials. This is not a relationship based in care for material others or the environment. Creatively reusing recycled materials to create disposable products and engaging with meaningful creative reuse centred around utility have fundamentally different theoretical orientations as the former relies on dualism and the latter has the potential to help makers recognize material animacy. In this section, I will be discussing the following two forms of creative reuse that can help tackle issues of duality and disposability in AE: (1) makers can reuse materials to create *useful* objects (creative re-usefulness) (2) makers can reuse meaningful materials to create sentimental items (meaningful reuse). Although I am distinguishing these two approaches, they often coexist and I only differentiate between them in order to address their key attributes. I also feel that it is important to specify that the idea of utility discussed in this section

differs from the notion of 'utility' that Métis scholar, Max Liboiron (2020) connects to the cultural proclivity of colonial-capitalism. The idea of usefulness presented by participants is not connected to land extraction but lives out of practices based in material reclamation and material care.

As addressed in the former chapter, this study showed that once something is experienced as matter, its inherent material attributes can be recognized as animate and therefore valued in meaningful ways. In addition to material attunement leading to appreciation, research participants often spoke to the worth of turning something 'useless' into something 'useful'. Rather than seeing temporary value in reused materials, participants often saw endless value through the lens of utility. Sadie - a fabric and embroidery artist, spoke about the material nature of fabric and how its inherent malleability leads to endless usefulness,

> *I find with fabric especially, it's very malleable and adaptable so it's really easy to*
>
> *repurpose it into new things all the time. Right now I'm working on turning an old*
>
> *bed sheet into a dress because it got like a hole in the bed sheet. So I think, I can't*
>
> *use this bed sheet as a bed sheet anymore because my foot keeps going through it,*
>
> *but it can turn into a skirt or a top and then once it's done being a skirt or a top*
>
> *and turn into like a patch for something else.*

Once the fabric no longer fit its prior use, it could easily be transformed into something else that was useful. Sadie found herself in this endless cycle of reuse-fulness as she believes that through using things we can truly enjoy them. Utility was both explored as a phenomena that leads to endless value and a way to enact enlivenment. For instance, Pandora favours creative re-usefulness over creative reuse as she sees using something as a way of bringing it back to life,

Useful art is a solution I questioned myself because I can make an irregular

shape that I love, or I can make something that somebody will use. Very of-

ten I will choose to make something that somebody will use just on the prin-

ciple that will get used. The t-shirt can't just 'die' because it has holes in it,

it needs to get used.

When Pandora referred to an unused T-shirt as 'dead' it was clear that she affiliates usefulness with animacy. She may feel as though something is alive when it is being used and therefore, using something is a way of enacting enlivenment. This made me wonder about the connection between usefulness and material animacy. As mentioned earlier, when an artwork is contained, there is a divide between the viewer and viewed. Feasibly then, utility can allow an artwork to transcend 'thingness' by allowing the artwork to interweave with the body through action. Unlike an object that sits on a shelf collecting dust and inertia, a useful object is continuously entangled with the body through being used. It is important to note that this notion is settler-colonial as it suggests that materials are passive until humans are involved. As Rosiek et. Al (2019) suggest, Indigenous agential epistemologies recognize objects as innately animate, rather than becoming animate through human intervention. Perhaps, instead of thinking of objects as alive through re-use and dead once discarded, nonhumans can be viewed as innately alive and therefore innately worthy of care, love, and stewardship. Maybe then, creative re-usefulness can be defined as a method of caring for more-than-humans.

In addition to creative re-usefulness, meaningful reuse was suggested as a potential solution to the issue of disposability typical in creative reuse practices. In fact, the objects collecting dust on the mantle can be considered 'useful' as well - depending on how we define utility. Per-

haps an object's 'utility' is in its capacity to exist sentimentally. For instance, Garber (2019) discusses how some objects in her home serve the imagination and others are useful, however, the true value of these objects is in their role as "things-to-think-with" (p. 8). She discusses the importance of thinking-with 'objects' in order to tune into the realm of matter. We have already explored how 'utility' can be a catalyst for a maker's material attunement, but what about making-with meaningful materials?

Several participant's engaged with meaningful creative reuse through their art practices. One participant - Joelle - uses found unfinished textiles as a way of re-imagining past narratives. While discussing her work she said,

> *I've started collecting unfinished textile projects, so I'm finishing embroideries*
>
> *and quilts and finishing knitting projects. I am working with those in order to fin-*
>
> *ish them, but also give them another life that the original person who made it*
>
> *might have never thought about.*

Here, Joelle recognizes how the textile works contained previous lives and intentions. In order to give materials *another* life she thinks-with materials to imagine their future lives out of past ones. Through doing this, she recognizes that materials live on beyond us, and we are only momentarily shaping them through our art-making. Foundational to this enactment of creative reuse is the understanding of material animacy and material longevity. Through recognizing both material animacy and entanglement through environmental art-making, makers can learn to act as stewards of more-than-human agents. For instance, when a material is seen as a passive agent, it is not possible to connect to the material in the same way as connection is often seen as something that occurs between two animate beings. Therefore, when material is seen as 'animate' or

'enlivened', it is more likely this reciprocal connection will form. During the group interview, Mikaela highlights this through discussing how forming new material relationships can lead to deeper connection,

> *It would be interesting if creating art materials was a part of the curriculum. We could start by having one term that created no garbage waste, where students learned to repurpose things, and make their own material. You know students have all these materials, but they're wasting them. If they are going through the process of making their own materials, I think they'll care a lot more. It'll be more empowering to them because by making everything they will connect to their materials more.*

Mikaela suggests that through engaging with creative and meaningful reuse, makers can unlearn the connection between duality and disposability and instead learn to connect to materials in a profoundly meaningful way.

Through creative re-usefulness and meaningful reuse, research participants were able to recognize agential ontologies (Watts, 2013, Rosiek et. Al, 2019) and form their art practices around the stewardship and care of material entities. In other words, environmental art-making allowed makers to surpass 'thingification' as the foundation of their practices and instead recognize the relationalities presupposing their material engagements (Barad, 2007). Through identifying relationality, makers could connect to their materials as animate beings and therefore recognize their role and responsibility as stewards of the material world.

5.3: Reconfiguring Categorizations

Another way in which centring the material leads to environmental consciousness is through its ability to break down and expand categorical distinctions. This was briefly explored

when I discussed my paper art as the process of intra-acting with paper rather than treating it as only a conduit for the written language led to a transformative reconfiguration of previously held categorizations. Moreover, in the introduction section, I explored several ways in which Indigenous epistemologies centre material animacy and therefore exist without the categorical distinctions often found in Western ways of knowing (Todd, 2015, Kimmerer, 2016, Rosiek, 2019). This process of untangling and reconstructing is similar to Barad's (2007) writing on agential realism where they argue that language has become more trustworthy than matter and that this has led to a separation between inseparable intra-acting agents. This separation leads to language being often relied upon to determine reality - which is often seen as a result of educational settings that rely heavily on language and social constructivist approaches. Here, it is important to recognize that Barad (2007) is referring to Western-colonial languages that objectify material entities. In the introduction, I briefly reviewed Kimmerer's (2016) 'Learning the Grammar of Animacy'. In this chapter, Kimmerer explains how Indigenous languages run counter to Western-colonial conceptions of language through using words that transcend the human/nature division and breath life into the realm of non-humans. While thinking-with both Kimmerer (2016) and Barad (2007), I wondered, what 'other' realities are erased by the predominance of Western-colonial languages in North American educational settings? Further, what 'other' realities would be discovered from a movement away from colonial language and a movement towards the conceptions of matter? Would merging the categorical distinctions created through language lead to new meaningful encounters? Collins (2019) writes about his experience of Spanish moss and cigarette butts as one that unleashed the intertwined rhizomes of nature, culture, and materiality from their previously built categorizations. He states that he experienced "a sense of alienation"

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from his "own categorical distinctions across life, death, and the agency of matter" in his artful interaction with moss (p. 153). Odegard and Rossholt (2016) argue that this 'material turn' potentiates a less hierarchical and more flattened logic. In this section, I will think through participant experiences that are similar to Collins (2019) experience with moss in order to further cement ways in which materially discursive art practices help makers reconfigure previously held categorizations. Underlying this section is the belief that forming new connections between previously divided categories is a crucial skill for acting environmentally in a changing world (Oppermann & Iovino, 2016, Collins, 2019).

Art as a powerful tool for categorical connection came up throughout this study in both overt and covert ways. Often, while trailing off into discussion about their personal art practices, participants ended up making connections between categories that are rarely explored in educational settings such as culture, nature, health, and material. While discussing art as a tool for social change, Mikaela commented on the power art has to make connections between previously separated topics,

> *Art is interesting, because on one hand it can be very destructive, but on the other hand, I feel like it could be a tool to our salvation. I feel like it is really extreme. I think that above all, it is a really great way of connecting things together.*

She then began to discuss how art can be a profound tool for bringing different subject areas together in an interdisciplinary sense. While asking her why she thinks that is she stated that,

> *Art allows us to provoke, ask questions and change things in order to readapt into this collapsing world. Environmental issues are really hard, so people don't want to talk about it. I think art is a way of thinking in new, creative ways.*

Mikaela discusses how art-making can allow students to confront issues that are difficult to address through verbal communication and how this movement away from language can lead to the creation of new, creative ways of thinking.

Although it is complex to try and locate only one aspect of art that allows it to function as a connective tool, participants explored the inherent material aspect of art-making as a possible reason for its ability to reconfigure categorical distinctions. Research participants often connected the materiality of environmental art-making to the restructuring of certain categorizations; notably, the nature/culture divide. Throughout this study, there were moments that came up that blurred the duality of nature and culture through the recognition of entanglement to and with nonhumans. During an interview with Malaka, she pulled out a bunch of artworks that were contrived of mostly birch bark (fig. 8). While sharing her artworks, she discussed,

> *I've been collecting birch bark and I started experimenting with drawing and painting on birch bark. I came back from the countryside with a big bag of Birch bark that they have to prepare and I'm experimenting. I'm checking to see how the Indigenous people prepare their barks.*

Not only did the categories of nature-culture interweave throughout Malaka's ecological art-making practice, but 'nature' also helped her re-relate to her transformation after being diagnosed with a life-threatening illness,

> *There is a very strong symbolism with Birch for me at least. Most trees renew their bark slowly, but Birch does this very fast. The Birch's 'new life' reminds me of my new life. You get rid of your skin and this is the one you removed and you grow a new one to heal.*

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Here, Malaka describes that through her relationship with birch bark the previously separated categories of culture, illness, healing and nature conjoined. This entanglement was both born out of and reproduced new connections, such as the connection between our own bodies and the bodies of trees.

Figure 8. Malaka's birch bark artwork hung in the forest. 2020.

In a similar vein, Sarah - who creates useful artworks with reclaimed materials from her family's intergenerational cottage, breaks down previous configurations between nature, culture, and home. Her artworks weave together narratives of family and home through material reclamation,

> *This cabinet is made of doors from our cottage that my brother decided to*
> *change. And you've got the front door and drawers that are from a sofa my sister*
> *had from the 50s. I just didn't want these things thrown out and then I started*
> *thinking that I could use them creatively. My dad built the cottage in the 50s*
> *right and he passed away when I was five so to me the cottage is part of him. We*
> *use the door to the cottage to access the cottage, that's meaningful to me as well.*
> *It's your step in it, you know it's something that he planned and built and and put*

up and he went through. And my mum too. And now she's 95 and she's still going

up to the cottage.

In this interview excerpt, Sarah discusses the semiotics of the door and how this meaning is embedded into the artwork's material articulation. Further, the materiality and semiotics of the door are interwoven with her idea of family, home, and time. Rather than succumbing to 'thingification', Sarah's dresser exists as a specific material phenomena. This work recognizes the ontological as the primitive relation through its careful, intentional connection of material to memory and action. This not only helped Sarah engage in a meaningful way to reuse materials, but led to the fusion of previously separated categories. Through this fusing, Sarah could redefine the meaning contained in each part of the cottage and the 'natural environment' surrounding it.

Through merging categorical distinctions, EAE can provide students with the ability to make new connections. By using a material for something other than its manufactured intention (in the case of creative reuse) or ecological value (in the case of environmental art-making) a maker can reconnect to materiality. Being-with material in this way can lead people to uncover new meaningful intra-actions that were previously erased through colonial dualism (often engrained in language). As the ecological crisis cannot be solved using the same thinking that was used to create them, the formation of new, meaningful connections is needed.

5.4: Embracing Precarity

As the sensory reality of the climate crisis expands globally, it is necessary for us all to engage in a process of reorienting for a changing world. What skills should makers develop in order to reorient and reinvent and what role can art play in addressing change and crisis? Thus far, this chapter has gone over how material recentering can lead makers to think in terms of

abundance, wholeness, reciprocity, enlivenment and entanglement. In this section, I will explore another necessary skill for reorienting towards a changing world - embracing precarity. Currently, both humans and 'more-than-humans' are facing precarity at different scales globally, whether it be precarity of housing and habitat, food sources, or climate patterns. Similar to how Duvernoy (2020) states that 'existential adaptation' to uncertainty does not currently fit the current conception of 'the everyday', our traditional conception of art-making does not suit the need for an 'existential adaptation' that leads to the confrontation of precarious existence. Although a traditional ethos of art-making may not encourage makers to embrace uncertainty, this study has shown that environmental art-making can.

Skills that allow makers to embrace uncertainty are the ability to make mistakes and experiment. These skills lead to an acceptance of precarity as experimentation entails variability and unpredictability. As environmental art-making embraces the ephemeral rather than upholding the ideas of preservation and perfection, EAE has the ability to encourage makers to accept uncertainty. When participants delved into their material processes, they often explored the connection between environmental art-making and uncertainty. Joelle explored how her use of found materials necessitates acceptance,

> *I would say with found material, you're never going to get stability. In painting,*
>
> *you tend to go to the same brands and you know which color to mix with which*
>
> *color. You have to accept with found material that things are not going to go as*
>
> *planned and you are never going to be able to repeat the same outcome.*

In a similar vein, Malaka discussed her experience with material experimentation,

If you're working with recycled or foraged material, you need to be flexible with

the result, because you might not have the same effect, the same shiny stuff, the

same whatever.

Despite this unpredictability, participants found profound value in the lessons of precarity offered by environmental art-making. Often, the beauty of uncertainty was discussed as much if not more than the ecologically responsible aspect of sustainable art forms. Throughout the auto-ethnographic research process, I became so involved in the aesthetics of precarity that I even forgot about the ecological aspect of the biodegradable making process,

When it comes time to drawing, technique is hard to follow because the materials

will do what they choose. Perhaps it is their turn to exert their creative presence

and I should just listen. Maybe through listening, I can learn the important

lessons that I struggle with deeply - making mistakes and living with uncertainty.

Although precarity was discussed as the overarching lesson contained in EAE, there were many smaller lessons contained in this. One that was frequently discussed was the art of slowing down. During the group interview, Mikaela discussed how experimentation helps lead to patience for herself and her students,

Environmental art is hard to do and it takes a lot of patience. With my students, I

try to convey 'just take your time, be patient, it might not be what you want it to be

in the end, but that's what comes with experimenting and having these limits'.

Mikaela discussed how patience is important to learn as it works against teachings of late capitalism such as rapid production and consumption,

I think sustainable art-making teaches us patience. We live in this world that is so

focused on getting things done fast and being as productive as possible, getting

what you want when you want it and producing environmental works requires a

whole change in mindset. If this change in mindset is not developed, sustainable

art-making can be quite frustrating.

As mentioned by Mikaela, without the development of patience and acceptance of precarity, sustainable art-making can be difficult for students. During the group interview, we explored permanence and perfection in art education and how children learn this at a very young age through the materials they use. More specifically, we discussed learner's material interactions with salt dough and natural clay, two materials that are earthen and fragile. While using these materials, makers often had to deal with difficult emotions of dispossession. Through discussing learner's experiences with natural clays, we concluded that engaging students in environmental art-making can help them learn how to live with precarity by allowing them to confront dispossession safely. Environmental art-making allows makers to tune into material articulations that are in no way predictable like those of traditional art-making materials. This encourages makers to develop patience and embrace precarity, two skills necessary for living in a changing world.

5.5: Attuning to Unintentional Communities

Another area that is necessary to strengthen within a changing world is the realm of community. While discussing the reviewed literature, I covered the topic of garden pedagogies which encourage interspecies community (Dyment 2005; Danks 2010; Stone 2009, Jagger et. al, 2014) and discussed the prevalence of community-based practices in site-specific AE (Coutts and Jokela, 2008, Ęca and Mason, 2008). The reviewed literature has shown that community is

nurtured when art is used to connect to local environments, such as gardens, towns or forests. Even further, the literature suggests that community formation is a necessary component of adjusting to a changing world (Ęca and Mason, 2008). During the study, Camila echoed this sentiment by stating that, *"I think working in grassroots ways and in community is really important in order to feel more hopeful, and to feel that there are things we can do in groups that, maybe alone, can feel too daunting."* Although several pre-addressed themes appeared during this study (such as aforementioned role EAE has in promoting community), the idea of community came up throughout the research in new ways. The main theme that arose was the idea of 'unexpected community', however, encapsulated in this overarching theme were many diffractive instances. Throughout this section, I will think through these instances as fleeting intra-actions. As I think-through, I will be referring to an extended notion of community where I define 'unexpected communities' as moments of connection that would not have been apparent without the presence of environmental art-making. To clarify, the community formations are 'unexpected' or 'unintentional' as they are either produced by or recognized through environmental art-making practices.

This study revealed a connection between interspecies community formation and environmental art-making. Through recentering the material 'other', complex inter-species communities were recognized by research participants. Recognizing these communities often encouraged makers to create new ecologically driven connections. This sentiment highlighted by Matt during our individual interview,

One thing I've learned overtime is that there's a way of looking at the environment

and how we interact with one another that's embedded into environmental art-

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making. Is that no matter how different things are, they can come together in or-

der to make something new.

This idea becomes clear when looking at Matt's artworks that bring together disparate and dis-

connected elements in order to form a reimagined whole (see fig. 9). In order to create these art-

works, Matt forms unlikely communities with material detritus through his collecting process.

Figure 9. "BiRtHdAy BoY", sculpture made from found toys and objects, plaster,
wire and paint, 2017.

Unlikely communities also formed and recognized throughout the auto-ethnographic re-

search component. One of these communities was formed in my engagement with buckthorn

trees (see fig. 10). I felt as though I was connected to the community of plants surrounding the

buckthorn trees by using the buckthorn berries for ink-making,

This buckthorn tree and I have formed an unexpected and complicated relation-

ship. It is a 10 minute walk from my home on the train tracks. I go once a week

and have allowed its berries to stain my shirts and nail beds. It brings beauty into

my life but also sadness when I think of its toxic root system and colonial lineage.

By using its berries, I decrease its spread and increase the likelihood of biodiver-

sity. I like to think I am acting in community with all of the plants around the

buckthorn tree as I pick its berries.

Figure 10. The buckthorn tree, if you look closely you can see the surrounding plants are struggling to survive. This is due to the toxic tree roots. 2021.

Although my intra-relation to the more-than-human life on the train-tracks does not follow the traditional definition of community, I felt in fellowship with these organisms as we had mutual goals. Through connecting to these life forms through ink making, I was unknowingly engaging in community reconstruction which is an important focus of EAE (Ylirsku, 2020).

Thus far, I have spoken about unintentional interspecies community formation. In addition to leading to interspecies communities, this research also revealed a strong connection between unexpected community formation within human communities. Through engaging in their materially discursive art practices, research participants often opened themselves to unexpected interactions within their neighbourhood communities. One of the connections that stood out was Mikaela's relationship to her school's janitor that formed out of a conversation about the school's fauna and flora. While preparing for a drawing project that looked at microcosmic ecologies (see fig. 11), Mikaela had to ask the school janitor to stop mowing the lawn,

I had to track down the person who mows the lawn because the lawn could not be

mowed for us to be able to do this project and learn about the plants in the

schoolyards. I had this conversation with the custodian where I said "the lawn

can't be mowed because there's all these flowers" and he was like "No, there's no

flowers. There's nothing, it's just grass." And so it was funny because when he ac-

tually went out, he came and told me "Oh yeah, there's actually a lot of flowers

here!"

Throughout this connection, a community was formed not only with the ecologies of the yard

and the janitor, but also between Mikaela and the support staff at her school. This relationship is

unlikely as teachers and janitorial staff rarely communicate - especially regarding local ecolo-

gies.

Figure 11. Tufted Vetch drawing done by Mikaela as a prototype for the project. 2021.

Another interesting connection that formed was between Sarah and a person from her

karate studio who had collected unused karate boards that had been placed in the dumpster and

offered them to Sarah. During our interview I asked Sarah if she felt more connected to painting

supports that were materially reclaimed. To this she highlighted how the moment of community connection was what made the supports valuable,

> *I think more of the fellow that flagged them down for me. He came directly to me*
>
> *and said "look here can you use these? They're in the bin?"*

What is interesting about this interaction is how it became interwoven with the process and existing onwards into the future,

> *It was very kind of him and I think of him when I pull them out to paint. I gave*
>
> *him a painting as well just to thank him.*

Similar to Mikaela's practice of ecological attunement, Sarah's practice of material reclamation influenced members of her studio and ended up forming unintentional communities.

Other research participants spoke about how their environmental art-making practices led to unintentional community connections in their neighbourhoods. During our individual interview, Sadie discussed how her art connects her to her local community in unintentional and novel ways,

> *Wearing my art helps me feel good about myself and starts weird conversations with peo-*
>
> *ple on the street that also creates connection in new unexpected ways.*

As Sadie's art is typically worn, it has the ability to interweave with more spaces, contexts, and communities than typical gallery works. In the instance she discusses above, her artwork was entangled with her neighbourhood community and personal identity. The interweaving of these experiences led to new and unexpected community connections for Sadie and members of her neighbourhood.

Bringing people together in new, unlikely ways has been a theme throughout the past couple of years during the pandemic (Willcox et. al, 2021). Thus far, I have not spoken in depth about the pandemic as it did not come up during the research as much as one may expect (often-times it feels like an all-encompassing phenomenon). That being said, I would like to discuss it here due to the role the pandemic has had in shaping our ideas of community. As discussed throughout this section, environmental art-making has the ability to bring together communities in new and unexpected ways. This came up during one of the individual interviews when Leila discussed a community project she did during the pandemic that focused on local ecologies,

> *At first I wanted to make artwork about the environment, but the pandemic had started. I began thinking about how I could bring people together to make art. I decided to in-vite them to come look at nature and the outside world through their windows, and they sent me about 150 pictures and I made an installation with them.*

Rather than making art individually, Leila decided to use art as a tool to fulfill the need for new community connections throughout the pandemic. As globally people were following stay-at-home orders, people were isolated in outdoor environments. This project led to participants rec-ognizing their connection to more-than-human communities as a community during a time when both of those things were difficult to grasp. By engaging her community in photographic discus-sion on local ecologies, Leila made space for unlikely community formation.

Throughout this section, I have covered many ways in which environmental art-making can lead to unlikely and unintended encounters between people and more-than-humans agents. Aspects of the reviewed literature that looked at the theme of community came up frequently throughout this study, such as EAE's ability to form and reconstruct communities. However, this

research expands on this by providing insight into environmental art's ability to engage makers in material recentering that leads to the formation and recognition of community through unlikely connections.

Through moving away from traditional methods - that position the human at the center, makers can uncover previously erased intra-actions. This process of uncovering can encourage makers to belong-with the environment in responsible ways, explore relationalities, create new meaningful connections, embrace precarity, and form interconnected communities - all skills needed for this rapidly shifting world. Although new material approaches to art-making may not directly solve the issues of industry mentioned in chapter four, they have profound implications for the development of sustainable skills for a changing world. New material EAE works against issues of hopelessness, disposability, and excessive consumption by encouraging abundance-thinking, enlivenment, and gratitude.

6. Conclusion

What has this assemblage of perspectives, intra-actions, and thinking-with theory brought forth? Although one aim of this thesis was to think with complex systems and amplify numerous voices, there have been stand-out moments. Throughout this final chapter, I will navigate what these specific moments may be and explore what moments were left out for others to discover at another time. Foremost, I will do this by discussing the implications of this study, from rethinking data collection to exploring the profound implications of a new material EAE. I will then move into discussing the limitations of this study and what was left out for others, in different places and at different times. Lastly, I will speak some final thoughts and through doing so, hope to encourage others to think their own final thoughts in some way, whether it be mentally or through enacting connection with material others.

6.1: Implications of the Research

What are the challenges lying in the way of performing a materially-centered EAE in both traditional and diverse learning settings? What are the profound possibilities engrained in enacting a new material EAE? How may new material practices encourage makers to develop skills that are essential for a changing world? There is not one specific answer to these questions lying in any direction. Instead, this thesis functions as an assemblage of perspectives (Jackson & Mazzei, 2013) and moments that aim to inspire material engagement and further experimentation.

Despite this study being an assemblage (Jackson and Mazzei, 2013) of many diffractive instances, it has culminated in a few specific contributions. Firstly, this research has aided in developing a new vantage point for EAE, one that diminishes the separateness between human/na-

ture and therefore, artmaker/material. This is visible in both the data collection, methodology and the data findings. This study rethought data collection and methodologies as a materially-centered process through employing arts-based auto-ethnography and a diffractive analysis while considering the intra-actions of conversations, artworks, theory, and researcher (Taguchi, 2012, Lather, 2016). Through enacting new material research methods, I ascribed material agency to the more-than-humans involved in this study. Doing so was imperative as this study suggests rethinking agency as a potential route to environmental consciousness.

In addition to questioning separateness and rethinking material agency in data collection and methodology, this research project located issues of dualistic foundations in EAE. Through addressing a range of challenges within EAE, this research pinpointed a relationship between dualistic thinking and anthropocentric art-making and a rooted connection between anthropocentric consciousness and environmental exploitation. The specific areas that were explored in order to locate this connection were hopelessness in the face of industry, a dualistic social imaginary of art, and the disposability mindset.

This study revealed a connection between feelings of 'hopelessness' in the face of the consumerist nature of art-making materials, accepted norms of profitability and preservation, and the presence of supply monopoly and uniformity in educational institutions. At the centre of these diffractive instances of hopelessness was the presence of a larger institutional body acting in opposition to the needs of individuals. The participants involved with this study work overtime to enact ecological responsibility whether it be through their art practices, teaching practices, or everyday actions and therefore feel hopeless in the face of environmentally irresponsible institutional actions. It was further recognized that what all of these events of 'hopelessness' had

in common was a foundation of anthropocentric extraction, exploitation and colonial acting (Karatas, 2016).

Another one of the main obstacles that was recognized through this study was the foundation of environmentally destructive colonial ideology to the accepted social imaginary of art. Ideologies that were discussed as being embedded within the social imaginary of art in AE classrooms are those of cartesian duality and normative dualism. As our conceptions of art have the power to change our relationships to our environment (Inwood, 2010), such foundations produce a negative feedback loop. New-material art practices have the potential to disrupt this loop as they rely on alternative theoretical frameworks that embrace ephemera and interconnection (Todd, 2015).

Along with a dualistic social imaginary of art, the prevalence of disposability in art education was identified through this study as another challenge impacting EAE. Despite this being a product of both of the aforementioned issues (industry and the social imaginary of art), it was important to address on its own as this study found that both traditional and 'environmental' methods can produce a throwaway mindset in learners. For example, participants remarked on how creative reuse can teach disposability if it is not done meaningfully or in a way that embraces usefulness. The repercussion of a pervasive disposability in AE is that art education becomes a subject that teaches students how to consume and dispose rather than how to live in a responsible relationship with the earth. Simply reusing materials is not enough to deliver an environmental arts education. Doing so requires the deliverance of art methods that elicit an embodiment of ecologically responsible practices.

Material recentering is one method that this study found to be useful in encouraging an embodied ecological EAE that helps makers develop essential skills for a changing world (Barrett, 2015, Odegard and Rossholt, 2016, Bentz, 2020, Ylirisku, 2021). This study found that through material recentering makers could learn to (1) belong-with the environment, (2) recognize material agency, (3) create new meaningful connections, (4) embrace precarity, and (5) attune to unexpected communities.

Through decentering the artist and recentering the material, makers could achieve belonging-with the environment rather than controlling the environment. This shift often led makers to form new, more environmental mindsets that encouraged makers to think in terms of wholeness and abundance (Jardine et. al, 2006,). As an identified struggle for those involved with environmental art practices was the feeling of hopelessness in the face of industry, countering hopelessness was identified as a benefit to developing these environmental mindsets. In other words, material recentering can lead makers to think in terms of abundance and wholeness, two examples of positive mindsets that can counteract the hopelessness of the environmental crisis.

In addition to assisting makers in developing environmental consciousness, ecological art practices were shown to help makers attune to material enlivenment and form relationships of care for material 'others'. Recognizing more-than-human agency (Barad, 2007, Watts, 2013, Rosiek et. Al, 2019) is crucial in light of the environmental crisis as doing so can help makers form relationships of empathy and stewardship for nonhumans (Odegard and Rossholt, 2016). When makers see materials as passive agents, it is difficult for them to connect to their materials in an equal way. However, when makers encounter materials as animate, they can form deeper connections with material 'others'.

Another way in which centering the material leads to environmental skill-building is through its ability to break down and expand categorical distinctions. A movement away from language and towards the material can lead to the creation of new, creative ways of thinking (Barad 2007, Collins 2019). Being-with material in this way can lead people to uncover new meaningful intra-actions that were previously erased through dualism (Odegard and Rossholt, 2016). As the ecological crises cannot be solved using the same thinking that was used to create them (Braidotti & Hlavajova, 2018) the formation of new, meaningful connections is needed.

A materially-centred EAE also encourages makers to embrace precarity. As both humans and 'more-than-humans' are facing precarity at different scales globally - such as precarity of housing and habitat, food sources, or climate patterns, confronting precarity is more important than ever. Embracing precarity is possible through a new material EAE as recentering the material implies listening to that material's truth rather than the artist's vision. Therefore, if the material crumbles or breaks, the artist is forced to confront and accept this. Further, through embracing uncertainty, makers can also develop skills that are antithetical to rapid production and consumption mindsets such as patience and slowness.

Lastly, this study revealed a connection between interspecies community formation and environmental art-making. Although this connection was previously addressed in the reviewed literature (Dyment 2005; Danks 2010; Stone 2009, Jagger et. al, 2014), this study focused on the formation and recognition of 'unlikely' communities through material recentering. Through tuning to the material, research participants were able to both form and notice connections to their local ecologies, neighborhoods, and peers. Forming unlikely communities is essential during the environmental crisis as we must build solidarity in order to act in new, creative ways.

By turning to new material pedagogies, this study identified several ways in which material recentering can encourage makers to think in terms of abundance and wholeness, develop gratitude and reciprocity, recognize agential realism, embrace precarity and attune to unintentional communities. Further, this research identified these skills as beneficial in helping makers confront a rapidly changing world. In its essence, a new material EAE is not about eradicating environmental disaster by stopping the danger that lays in the imagined future (Haraway, 2016), but is about aiding makers in developing new orientations that match the present. The skills makers can develop through interacting with EAE may not solve the environmental crisis, but will help them navigate these challenging times.

6.2: Limitations of the Study

There are two main limitations in this study that could be addressed by future research. Firstly, as I conducted this research from a white settler perspective, my investigations into an environmentally-focused AE were biased towards a North American settler context, therefore leaving out 'other' experiences of art and environment. Further, as a white settler, I myself am not advancing the field of environmental art education in the direction of BIPOC representation - which is a necessary step due to the dominance of whiteness within this particular area of scholarship. Secondly, this study is limited by the characteristics of the participant pool. Although this study's participant pool was diversified (including POC, queer, and (dis)abled perspectives) and offered incredible insights, certain voices were absent and therefore, unintentionally left out of this study. Perspectives that were absent in the participant pool were voices of those who are Indigenous to Turtle Island. I consider this a limitation of this research as there is a need for more Indigenous voices in humanities research, particularly research that works with new material and

environmental theories (Clary-Lemon, 2019, Kishebakabaykwe, 2010, Absolon., and Willett, 2005, Rosiek et al., 2020).

6.3: Advice for Future Researchers

In this section, I will delve into what was left out for others to explore at another time. I will do so by delving into how the aforementioned research limitations could be addressed by future researchers, and by reviewing what other research should be done in this area. Firstly, as this study focused more on the theoretical underpinnings of EAE and developed an assemblage of perspectives, it left out more practical applications of environmental art-making. This project attempted to fulfill this by hosting an online gallery that provides resources into EAE and insight into what practices environmental artists are engaging with (www.cr0w.org). Despite this effort, more research must be done into the enacted new material EAE in different learning settings. This study focused more generally and did not investigate a new material EAE in relation to a specific age group, population, or learning setting. Future researchers should investigate the implications of a new material EAE for populations struggling with issues of social sustainability, (dis)ability, and marginalization. Further, this study did not investigate practical ways in which this can be integrated into the curriculum. Future researchers should investigate how a materially-centered EAE can exist within the learning competencies or curricular guide of AE. Contained in this kind of work should be research into how Indigenous ways of knowing can be brought into the AE learning competencies. Although this study paid further attention to material entanglements within EAE (Odegard and Rossholt, 2016, Garber, 2019, Collins, 2019) it did not address the entanglements of technological 'others' - despite the prevalence of media education within AE (Carlos, 2012, Venkatesh et. al, 2014) and the importance of techno-other entangle-

ment as a topic in post-human studies (Haraway, 2006). Future researchers should delve into the relationships between media and environmental education as this is a relatively untraversed realm (Cuerden, 2010, Lopez, 2020). Lastly, as it was mentioned in the introduction, scholars must continue to work towards mending the bifurcation between new materialism and Indigenous ways of knowing. By this I mean, settler scholars who want to work with new material theories must find ways to both honour Indigenous ways of knowing and collaborate with Indigenous peoples where parties are willing (Rosiek et. Al, 2019). Although this thesis aimed to recognize Indigenous scholarship through citational practices, future researchers should aim to pursue more in-depth collaborations between new materialist theory and Indigenous agent ontologies. Researchers should consolidate Indigenous agential ontologies and new materialist theories to further consider how we can ethically and responsibly recenter nonhumans, what this might mean for these communities, and what this can mean for ecological justice.

I wanted to make some final suggestions in relation to this study's rethinking of methodology and use of participant data analysis. Firstly, I encourage researchers to continue to move past anthropocentric frameworks that are often embedded in research as through doing so, new ways of thinking and being can emerge. As anthropocentrism is foundational to social science research, this form of undoing may be endless and never quite entirely resolved. That being said, through recentering material others in new ways (even small, seemingly insignificant ones), new ground can be uncovered. Further, I wanted to offer advice to researchers who are considering implementing participatory data analysis (PDA). As mentioned earlier, the use of PDA in this study not only provided findings, but further research data. Perhaps this is because I approached the participants with questions that were discovered through diffractive analysis rather than pre-

senting distilled research themes. I encourage future researchers to use PDA in this way and to not shy away from a surplus of research data - the more data, the more voices, the more perspectives, the more truths. While putting PDA to work in this study I did not (1) engage participants in activities or (2) bring more-than-human 'others' into the analysis. I strongly encourage researchers to explore both of these actions as the former can work to dismantle the research/researcher hierarchy and the latter can help research move further away from anthropocentrism encoded in social science research (as this too, has many levels of complex hierarchy).

6.4: Final Words

Moving towards a new material EAE is not about eradicating environmental disaster by stopping the danger that looms in the supposed future, but is about developing new orientations that match the present moment. It is about locating hope while still holding onto the profound loss inherent within the effects of the environmental crisis. It is a method of moving away from the harmful logic inherent in anthropocentric modes of art-creation and towards the lessons of the junk drawer. It is about asking materials "what knowledge can you share with me, how can we collaborate, how can I give back to you". It is about creating from that place of deep listening and careful reciprocity. This study has shown that tuning into material animacy in this way can lead to the recognition of 'other' ways of knowing contained within the material realm. It is through recognizing matter's alternative ways of knowing that we can resist dominant discourses and learn new ways of being and becoming.

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Education and Society*: Participant Consent Form*

Researchers: Jax Stendel, Master's Student, McGill University, Education and Society, 647-235-1234

Supervisor: Professor Claudia Mitchell, Department of Integrated Studies in Education, McGill University, claudia.mitchell@mcgill.ca, (514) 398-4527 Ext. 09990.

Title of Project: Towards a New Materialist Environmental Art Education

Purpose of the Study: You have been invited to participate in a research study that aims to address issues pertaining to the climate crisis in the field of art education. This study will explore how reusing materials and using land-based materials for artistic means can lead to sustainable awareness through encouraging material recentering.

Sponsor(s): This research is supported by the Social Sciences and Humanities Research Council of Canada.

Study Procedures: This research project will have three components. (1) I will be hosting individual interviews with participants, such as yourself, on their art-making experiences in relation to sustainability. These interviews will take place remotely and be recorded and then transcribed into research findings. (2) I will be collecting art or craft works that participants made using creative reuse. These works will be collected as photographs and be displayed on a website designed as a virtual dissemination of the research findings. (3) After the individual interviews and collection of the artworks, I will host group interviews that focus on participatory data analysis.

(1) In the individual interview, I will ask you questions about your experience with art or craft making, the environmental issues you care about, your relationship to your materials of creation, and how your materials inform your art or craft process. The interview will be from 45 minutes to 1 hour long.

(2) In order to discuss your process in the interviews, *please compile 2-3 images of your art practice or works. Please provide a short 10-50 word caption for each image* which describes how the art or craft work. During the interview, you can use these photos as points of inspiration to answer questions. At the conclusion of the interview, please *send both the images and captions to myself at jacquiestendel@gmail.com.* These images can be disseminated professional in the culminating exhibition if you consent. If you would like to use different images for the culminating exhibition you may send others further along in the research process. No images or information will be published without your consent.

(3) Several months after the initial individual interviews, you will be invited to partake in a group interview. These group interviews will have anywhere from 3-8 people depending on involvement. I will be showing you a selection of artworks that were submitted by participants and

certain quotes from the interview process. The group will be asked to reflect on this data through questions and reflections. Additionally, members of the group will reflect on their experience of the research process. This interview will last an hour.

I will conduct all interviews through video calls using Microsoft Teams. The use of any electronic communication can increase the risk of information being disclosed to a third party. It is not possible to completely secure the information because third-party platforms may have access to call content or metadata. I will be recording all of the interview's audio and visual components. Microsoft Teams automatically saves recordings privately and securely to the cloud. All recordings will be securely and privately stored on the cloud, and will be downloaded to my laptop. I will disseminate the results and works in an online publication. The publication will include the written thesis, pictures of the creative reuse projects that you hand in and the artworks I create through the auto-ethnographic research. Additionally, I will disseminate the findings in a formal report that also includes images of artworks.

Voluntary Participation: *Participation is voluntary, a person may decline to answer any question/take part in any procedure, and may withdraw from the study at any time, for any reason.* If you choose to withdraw from the study, any artworks or content recorded will be deleted unless otherwise specified. Once data has been published or disseminated it will not be able to withdraw your data however it can be removed from further use. As per McGill University Responsible Conduct of Research policy, research data will be kept for 7 years after first publication and then securely destroyed.

Potential Risks: There are no anticipated risks to you by participating in this research. The interview process will specifically address sustainable artistic creation.

Potential Benefits: Participating in the study may have no direct benefit for you; however, this research can connect you to other members of the sustainable art-making community and you may also enjoy the process of discussing this topic if you are passionate about our environment and artistic creation. Additionally, you will have the opportunity to have your work professionally disseminated if that is of interest to you. If these possibilities are not to your benefit, by participating in this research you are helping to add to the creation of a more sustainable future in art and education. The research findings will provide art educators interested in material and sustainable education during the climate crisis with further tools. Additionally, the findings will benefit the creative reuse community by providing opportunities for material exchange and conversation on material futures during the climate crisis.

Confidentiality: Participation in this study is confidential. The interviews will be recorded, and after they are used they will be discarded from my computer. The only person with access to the interview recordings will be me. You will not be named in the research or publication unless you consent. Consent can be withdrawn at any time. The one space where I cannot ensure confidentiality during the group interview. However, during all interview phases you may join the video call without enabling your video and use an alias if you so choose. Additionally, if you do not want to be recorded, I will take notes to summarize what you said.nIf you don't want artworks published, I will describe them in the written thesis and not publicly disseminate them.

Yes: ___ No: ___You consent to be identified by name in the dissemination of the research.
Yes: ___ No: ___ You consent to be audio recorded. Both individual and group interviews will be audio-recorded, however, video is not mandatory so you may keep your video camera function off.
Yes: ___ No: ___ You consent to participating in the focus group interview.
Yes:___ No: ___ You can share my artwork in reports.
Yes: ___ No: You can present my artwork provided for this study on your website with my copyright information. If you want copyright information included, you may tell the researcher to do so.

Dissemination of Results: The information collected will be disseminated in two ways. Firstly, the interviews will be cited in the written thesis. Secondly, there will be a gallery dissemination of creative reuse art and craft works shared by participants.

Questions: If you have any questions, please email Jax Stendel at jacqueline.stendel@mail.mcgill.ca.

If you have any ethical concerns or complaints about your participation in this study, and want to speak with someone not on the research team, please contact the Associate Director, Research Ethics at 514-398-6831 or lynda.mcneil@mcgill.ca citing REB file number
For written consent: Please sign below if you have read the above information and consent to participate in this study. Agreeing to participate in this study does not waive any of your rights or release the researchers from their responsibilities. Please keep a copy of this consent form for your records and please return a signed copy to the researcher via email.

Participant's Name: (please print):
Participant's Signature:
Date:

Draft Interview Guide

Main Research Q's

1. In what ways does the climate crisis affect artists' and art students' relationship to the materials they use?
2. What shifts occur in the art-making or art teaching process when sustainable materials are being used?
3. How does reusing materials change the way artists' relate to consumption and therefore ecology?
4. What do art educators, artists and art students think are the possibilities for conscious shift towards sustainability in art creation and art education?
5. What do art educators, artists and art students think are the current boundaries that block us from conscious shift towards sustainability in art creation and art education?

Artworks Portion 1

The interview will start by myself asking the participants to openly share about the artworks they chose to bring into the interview.

Art Background Questions

6. What do you define your practice as, for example, do you define it as art, craft, making etc.
7. What does your art practice look like, for instance, when do you make art? How do you make art?
8. What does art bring you in your life?
9. In what moments do you feel connected to art?

Art Material Questions

10. How were you taught art? What materials were used? What did you learn from these art materials?
11. Have you made any changes to the materials you use over time? If so, for what reasons?
12. Why do you seek out second-hand materials?
13. How do you presently relate to your art materials and the waste they produce?
14. How do your materials inform your art-making?
15. How do you learn from the art materials you use?
16. Does your relationship to art-making change based on what materials you are using?

17. How did you source the materials for the artworks you brought in today?
18. Did these artworks change the way you thought about materials and waste in art-making?
19. What possibilities do you see for the future of materials in art education?
20. How can we make sure we aren't teaching students to consume?
21. What is holding us back from using different materials in art education or in gallery settings?

Art And Environment Questions:

22. How does your art process allow you to connect to the environment?
23. How does the climate crisis and environmental collapse influence your art practice?
24. Does the climate crisis change the way you conceive of art or make art?
25. What do you see as the role of art to be in a collapsing world?
26. What are possible ways we could move towards a conscious shift in how we create art and teach art, one that is more ecological?
27. What do you think is blocking us, if anything, from a conscious shift in how we teach and make art?

Closure

28. Are there some questions I didn't ask that you would like to answer?
29. Do you have any questions for me?