ONTARIO’S INSTITUTION OF PUBLIC EDUCATION

SOCIAL IMAGINARIES AND EPISTEMIC SYSTEMS IN ONTARIO'S INSTITUTION OF PUBLIC EDUCATION

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Lay Abstract

This dissertation is an attempt to systematically theorize ecological epistemology as an epistemic system that has emancipatory potential for epistemic agents who live in Ontario and are subjected to its institutions. In particular, I examine Ontario's institution of public education to see how its organizational structures and policies shape the epistemic agencies of students, who are most often children. Drawing attention to epistemic location, co-constitutive relationality, and local responsivity, the three central significations of ecological epistemology, I contrast this system with the dominant, operative epistemology of mastery. I contend that a lingering reliance on the significations of the epistemology of mastery not only inhibits institutional changes, but it also creates an epistemic landscape where agents are more vulnerable to harms in the form of epistemic exclusions. Through an ecological analysis, I show why Ontario's institution of public education should reject the hegemonic status of the epistemology of mastery. The institution should instead embrace ecological epistemology in order to resist and respond to epistemic exclusions and honour the epistemic agency of all its constituents.

Abstract

This dissertation seeks to analyze Ontario's public education system for the explicit and implicit epistemic commitments that instantiate the institution's goals, methods of evaluation, and practices. The analysis proceeds with the conceptual framework of social imaginaries, highlighting underlying epistemic systems and their socially constructed central significations which organize and govern the norms of a society and manifest in institutions and epistemic resources. The dominant, operative, instituted social imaginary in Ontario is instantiated by the epistemology of mastery. The central significations of the epistemology of mastery are its ensemblistic-identitary logic, and its overarching goal of control or mastery. In my analysis, this epistemic system is contrasted with a newer system, ecological epistemology, which exists as the result of the social imaginary's instituting power, the society's critical-creative ability to create new meanings and significations. The central significations of ecological epistemology are situated epistemic location, co-constitutive relationality, and local responsivity. I analyze Ontario's institution of public education by identifying and comparing the significations of an epistemology of mastery with the significations of ecological epistemology found within its material resources, primarily within policy documents. It is my contention that a continued dependence on the epistemology of mastery impedes significant institutional change, despite evidence of the desire to institute the significations of ecological epistemology. The epistemology of mastery can contribute to undue harm to children in

the schooling system, specifically in the form of epistemic injustices, which have both epistemic and ethical dimensions.

The hegemonic status of the epistemology of mastery as instituted in Ontario's public education system harms children as epistemic agents, which causes secondary harms to other members of epistemic communities and to the very processes of knowledge circulation. One framework for thinking about epistemic injustice, described by Kristie Dotson as epistemic exclusions, explains that these harms occur at different magnitudes, with each requiring different tactics to counter. Through an ecological analysis, I aim to show why public education in Ontario needs to embrace the significations of ecological epistemology to unsettle the hegemonic status of the epistemology of mastery: to lessen instances of epistemic injustice and to make space for alternative epistemic systems, new and resurgent, that can help us create solidarities and coalitions and (re)imagine our futures.

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Table of Contents

Introduction **1**

Chapter One: The Epistemology of Mastery and Ecological Epistemology **14**

Introduction 14

The Social Imaginary – Instituted and Instituting Powers 18

Quinean Naturalized Epistemology and the Epistemology of Mastery 28

W.V.O. Quine 29

Code's Critiques of QNE 30

A Successor to QNE 40

Rachel Carson's *Silent Spring* and Ecological Epistemology 44

Carson's Epistemic Location 46

Ecosystems in Silent Spring – Literal, Metaphorical and Epistemic 51

Negotiating Significations 57

Conclusion: New Structures, New Significations 63

Chapter Two: The Ecosystem of Ontario's Public Education System **67**

Introduction 67

The History of Public Education in Ontario 69

The Ecosystem at Present – Ontario's Ministry of Education and its Relationships 72

Policies from the Ministry of Education 76

a. Enhancing Public Confidence 84

b. Achieving Excellence and Promoting Well-being 87

c. Ensuring Equity 96

Conclusion 104

Chapter Three: An Ecological Analysis of Epistemic Injustice **108**

Introduction 108

Fricker's Theory of Epistemic Injustice 113

Epistemic Injustice and the Social Imaginary 122

An Ecological Theory: Dotson's Epistemic Exclusions 132
Conclusion 142
Chapter Four: Epistemic Exclusions in Ontario's Institution of Education.....145
Introduction 145
Children and Epistemic Agency 150
Epistemic Exclusions and Children 154
Epistemic Exclusions Experienced by Indigenous Children 162
Conclusion 171
Conclusion.....174
Bibliography.....181

List of Figures and Tables

Figure 1. *DDT saves millions of humans, kills millions of insects.* …… 48

Figure 2. *Black Flag DDT Insecticide.* …… 49

Figure 3. *A Boa Eating an Elephant.* …… 160

List of Abbreviations and Symbols

QNE – Quinean Naturalized Epistemology

DDT – dichlorodiphenyltrichloroethane

MOE – Ministry of Education

AE – Achieving Excellence

GS – Growing Success

EEAP – Education Equity Action Plan

EQAO – Education Quality and Accountability Office

TRC – Truth and Reconciliation Commission of Canada

FNMI – First Nations, Métis, and Inuit

Introduction

Publicly funded formal education has a long history in Canada. Each province and territory enshrines a right in their legislated education acts for children to access free public education and fulfills their corresponding duty by developing and maintaining a comprehensive school system with provincial policies and curricula. According to Ontario's *Education Act*, R.S.O. 1990, Chapter E.2, "the purpose of education is to provide students with the opportunity to realize their potential and develop into highly skilled, knowledgeable, caring citizens who can contribute to their society."[1] The realization of this purpose is overseen by Ontario's Ministry of Education.

My dissertation seeks to analyze Ontario's public education system for the explicit and implicit epistemic commitments that instantiate the institution's goals, methods of evaluation, and practices. The analysis proceeds with the conceptual framework of social imaginaries, highlighting underlying epistemic systems and their socially constructed central significations which organize and govern the norms of a society and manifest in institutions and epistemic resources. The dominant, operative, instituted social imaginary in Ontario is instantiated by the epistemology of mastery. The central significations of the epistemology of mastery are its ensemblistic-identitary logic, and its overarching goal of control or mastery. In my analysis, this epistemic system is contrasted with a newer system, ecological epistemology, which exists as the result of the social imaginary's instituting power, the society's critical-creative ability to create new

[1] Ontario. "Purpose." *Education Act*, R.S.O., 1990, Chapter E.2, last amendment 2021. <https://www.ontario.ca/laws/statute/90e02#BK1>

meanings and significations. The central significations of ecological epistemology are situated epistemic location, co-constitutive relationality, and local responsivity.[2] I will analyze Ontario's institution of public education by identifying and comparing the significations of an epistemology of mastery with the significations of ecological epistemology found within its material resources, primarily within policy documents. It is my contention that a continued dependence on the epistemology of mastery impedes significant institutional change, despite evidence of the desire to institute the significations of ecological epistemology. The epistemology of mastery can contribute to undue harm to children in the schooling system, specifically in the form of epistemic injustices, which have both epistemic and ethical dimensions.

The hegemonic status of the epistemology of mastery as instituted in Ontario's public education system harms children as epistemic agents, which causes secondary harms to other members of epistemic communities and to the very processes of knowledge circulation. One framework for thinking about epistemic injustice, described by Kristie Dotson as epistemic exclusions, explains that these harms occur at different magnitudes, with each requiring different tactics to counter. Through an ecological analysis, I aim to show why public education in Ontario needs to embrace the significations of ecological epistemology to unsettle the hegemonic status of the epistemology of mastery: to lessen instances of epistemic injustice and to make space for

[2] The epistemic systems and their corresponding significations are defined in full in Chapter One.

alternative epistemic systems, new and resurgent, that can help us create solidarities and coalitions and (re)imagine our futures.

In *Ecological Thinking: The Politics of Epistemic Location*, Lorraine Code introduces the conceptual framework of the social imaginary to understand the politics of epistemic location and its impact on knowledge generation and dissemination. Code describes the social imaginary as "…a loosely integrated system of images, metaphors, tacit assumptions, ways of thinking - a guiding metaphorics" which members of a society hold in common and use to understand each other, themselves, and the non-human world around them. [3] While there can be multiple, partially overlapping social imaginaries within one society due to the existence of subcultures and counter-cultures, there is in operation a dominant social imaginary whose central significations are instituted and enshrined in public institutions and sanctioned practices. Borrowing from the work of Cornelius Castoriadis, Code describes a social imaginary as exhibiting two major powers, instituting power and instituted power. In an instituting moment, a new form of life is created, that is, new meanings and significations are introduced to, and ultimately established in the social world, whereas instituted powers entrench and re-produce already created and established forms of life.[4] Both instituting and instituted powers shape and limit the significations that those living in a society can employ to make sense of the world. Code contends that the social imaginary "sets boundaries on the credibility

[3] Lorraine Code, *Ecological Thinking: The Politics of Epistemic Location* (Oxford: Oxford University Press, 2006), 28-29.
[4] Angelos Mouzakitis, "Social Historical," in *Cornelius Castoriadis Key Concepts*, ed. Suzi Adams (New York: Bloomsbury, 2014) 93.

of knowers and of institutions of knowledge production, even as it also opens interpretive possibilities."[5] For Code, the social imaginary and its dual powers provide a framework which makes space for a radical critique of the dominant operative significations that have been instituted in our society and presents a path for new significations to be established in our institutions, effecting genuine change. The framework helps to provide a conceptual map for those aiming at living well and knowing well together, a chance for solidarity and coalitional politics to flourish and resist oppressive structures and systems.

Social imaginaries are underwritten by epistemic systems that help to organize and inform bodies of knowledge as well as the processes and practices of knowledge generation and negotiation. I will highlight two epistemic systems evident in Ontario's social imaginary: the epistemology of mastery and ecological epistemology. The epistemology of mastery, which underwrites and organizes the current dominant, operative instituted social imaginary, has two major significations which are problematic, especially when they are uncritically taken to be true, rational, natural, and inevitable rather than being understood as imaginary significations that society has collectively chosen to institute. First, the epistemology of mastery uses an ensemblistic-identitary logic which reduces 'being' to that which is determinate. The epistemology of mastery maintains a conception of everything, human and non-human alike, as determined, independent and, in principle, separable from others and its environment. As Code says, "These discourses [of mastery] enlist ready-made, easily applied categories to contain the

[5] Lorraine Code, "'They Treated Him Well': Fact, Fiction and the Politics of Knowledge," in *Feminist Epistemology and Philosophy of Science: Power in Knowledge*, ed. Heidi E. Grasswick (Springer Science + Business Media B.V., 2011) 210.

personal, social, and physical-natural world within a neatly manageable array of 'kinds', obliterating differences in a desire to assemble the confusion of the world into maximally homogeneous units."[6] This logic is accompanied by a second signification, an overarching goal of control, or mastery, over those things conceived as separate and determined. Mastery of self, mastery over others, and mastery over nature or environments are all considered to be highly desirable ends in an epistemic system which privileges the individual and conceives of him as separate from and primary to his relationships. The ensemblistic-identitary logic combines with an infinitely expandable rational mastery, which betrays vestiges of imperialism, imagining all the world open and readily available to the individual knower should he choose to pursue it. This logic depicts knowledge and facts as bivalent, ahistorical and apolitical. It is objective facts that matter, the knowledge of objects-in-themselves; the subject, the individual knower or epistemic agent collects bits of factual knowledge like possessions, striving to accumulate as many as he deems necessary and to become master of them while also striving not to taint them with his subjectivity. When knowledge exchanges happen between individuals, it is imagined to be a meritocratic contest aiming toward universal knowledge, guided by truth and rationality. The emphasis is on individuals acquiring knowledge first and then transmitting it to others.

Code's dispute with the epistemology of mastery is not its very existence, for she acknowledges that discourses of mastery have historically made tremendous

[6] Code, *Ecological Thinking*, 19.

contributions in societies, not only growing bodies of knowledge but also enhancing the living conditions and the well-being of at least some agents living there. Jeff Klooger describes Castoriadis's position, with which Code would agree: "No realm of reality is ever completely devoid of ensidic [ensemblistic-identitary] characteristics; and no realm of reality is ever completely reducible to ensidic characteristics."[7] It is particularly useful for knowledge of medium sized physical objects. However, Code also acknowledges that the same discourses have justified terrible and cruel actions that have impaired living conditions and well-being of others within the society, as well in other societies where imperialist intervention has occurred. When the significations of the epistemology of mastery are asserted to be real and necessary, the only way to conceive of and engage with the world, it displaces and marginalizes other ways of knowing and other ways to conceive of being; the epistemology of mastery becomes unjustifiably hegemonic and preserves an epistemic monoculture.

Code contrasts the instituted epistemology of mastery with an alternative that reflects the instituting powers of the social imaginary: ecological epistemology, a system which centers the complex co-constitutive or intra-active relations between both human and non-human agencies. Ecological epistemology provides a conception of humans as inseparable from their constitutive relationships, locations, and histories. It takes seriously the idea that communities of knowers are best thought of as ecosystems, and so

[7] Jeff Klooger, "Ensemblistic-Identitary Logic (Ensidic Logic)" in *Cornelius Castoriadis Key Concepts,* ed. Suzi Adams (New York: Bloomsbury 2014) 114. Klooger's terminology here follows a later formulation of Castoriadis's work, where the ensemblistic-identitary logic has been renamed 'ensidic' logic.

claims knowledge production can be best mapped within an analysis and study of intra-actions among organisms and their environments. In contrast to the epistemology of mastery, it contends that knowledge is better described as acquired and disseminated at the collective level rather than privileging the perspective of individual knowers. It is a way of engaging with knowledge, politics, ethics, and agency that helps to reimagine these concepts both in theory and practice. Ecological thinking expands on pragmatist, naturalized, and feminist epistemologies, and so should not be thought of as an alternative to such theories. Instead, ecological epistemology is better thought of as a successor, a scavenger theory that is not in opposition to traditional epistemology but one that both draws on and "resituates and reconfigures it, rewrites its agenda."[8]

The major significations of ecological epistemology include epistemic location, co-constitutive relationality, and the privileging of local responsivity. An agent's epistemic location consists of the social systems and structures which shape her identity and give her a certain place from which she knows. The signification of epistemic location acknowledges that agents are differently situated in these structures, causing agential knowledge to be partial, and therefore maintains an ongoing interest in how agents can know responsibly within their localized limitations. The signification of co-constitutive relationality reconceives the ways individual agents relate to their world and to others around them, positing them as mutually co-constituted through intra-action with each other. It is through relations with others and the world that individual agencies are

[8] Code, *Ecological Thinking,* 161.

possible. This signification turns our attention towards the systems and structures which constitute individual identities. The signification of local responsivity directs us to the benefits and insights gained from privileging local and potentially non-generalizable projects and experiences. This signification does not dismiss individual experiences as mere anecdotes but rather recognizes their potential epistemic authority. Attending to particularities does not necessarily provide universal knowledge but it is more responsible to deal with the complexities of local contexts and their bearing on knowledge claims. It asks us to put an object's context, including the subject studying it, on the same plane of inquiry as the object we seek to know.

One of the most significant ways ecological epistemology distances itself from the epistemology of mastery is the emphasis on collectives rather than individuals. The epistemology of mastery aspires to full, objective knowledge and attends to how individuals come to know; it is less concerned with how knowledge is built up by communities (or ecosystems). It is not a reflexive system: it sees its central significations as reflections of the real and rational, ignoring their social construction. Code argues that traditional accounts fail to recognize how "theories of knowledge shape and are shaped by dominant social-political imaginaries" which normatively guide standards and expectations regarding which projects and practices are valuable, worthwhile, or even intelligible.[9] Ecological epistemology offers a conception of ecosystems as the primary sites of knowledge generation, de-centering the individual knowers. In ecological

[9] Code, *Ecological Thinking,* 4-5.

epistemology, one cannot separate text and context, nor should one conceive of individuals as isolated from their relations to others and their environments. These connections make a person who they are; they are constituted by their relationships. The connections are so complex and multifaceted that they require "... specifically located, multifaceted analyses of knowledge production and circulation in diverse biographical, historical, demographic, and geographic locations…" in order to "...generate more responsible knowings."[10]

Ecological thinking is committed to analyzing the complex interrelations between situation and place "as fully as it analyzes traditionally conceived 'objects of knowledge.'"[11] These interrelations are localized and may or may not be readily transferrable to other domains. Ecological epistemology charts the local in its complexity and proceeds by way of cautious analogy to see whether and how the particularities relate to other positions. Because ecological subjects recognize the partiality of their knowledge due to having a particular epistemic location within a particular socio-epistemic landscape, negotiation becomes a critical focus of ecological epistemology. When negotiating about knowledge, whether about some fact or theory, some practice or standard, or the very values that govern and organize knowledge generation and dissemination, ecological subjects need to be aware of the effects of their partial knowledge and "...collectively and singly, to own and take responsibility for their epistemic-moral-political activity."[12] We are collectively responsible for the ways

[10] Code, *Ecological Thinking*, 9.
[11] Code, *Ecological Thinking*, 62.
[12] Code, *Ecological Thinking*, 5.

knowledge gets taken up culturally within our society, and we are collectively responsible for a diverse and robust social imaginary that can make space for new, resistant and resurgent avenues of knowledge acquisition and generation. That responsibility entails a negotiative process within said imaginary: "Granting centrality to responsibility in this ecological framework affirms a pivotal role for consultative, deliberative, negotiated decisions in constructing, contesting, claiming, and circulating knowledge."[13] Epistemic projects need to be conceived as collective-collaborative, situated endeavors.[14] When knowledge is recognized as situated, epistemic agents are better placed to engage responsibly during social and political deliberations and negotiations about knowledge because they are attuned to local complexities and more aware of the influences of the social imaginary on claims to know.

Understanding the significance of the social imaginary and its competing epistemic systems helps to identify tensions within Ontario's institution of education and to chart changes over time. It will allow me to identify lingering negative effects of the epistemology of mastery, whose hegemonic status poses problems for children's epistemic agency (especially when agency is reconceived as co-constituted and relational rather than individualized). The epistemology of mastery heightens the risk for epistemic injustices to occur. Within the institution's material resources, such as policy documents, there are instances of goals for the students and for the institution; the methods to achieve these goals can be interpreted ecologically or instantiated with the significations of the

[13] Code, *Ecological Thinking*, ix.
[14] Lorraine Code, "Thinking About Ecological Thinking," *Hypatia* 23, no.1 (2008): 192, https://doi.org/10.1111/j.1527-2001.2008.tb01174.x

epistemology of mastery. There is evidence that the institution is attempting to introduce ecological significations, but there is also evidence pointing to the enduring resilience of the epistemology of mastery. The epistemology of mastery imagines an epistemic landscape where epistemic injustice, in the form of epistemic exclusions, can flourish. By putting an ecological analysis into practice, I distinguish three different orders of epistemic exclusions that students in Ontario's public education system may face due to enduring stereotypes about children's epistemic agency combined with a monoculture of epistemic resources. Then, to make the point more starkly, I will introduce first, second, and third-order exclusions which Indigenous students in Ontario face due to the incommensurability of their beliefs and ways of knowing with the dominant operative social imaginary. The three magnitudes correspond to the degree of change needed within the epistemic system and accompanying social imaginaries to resist these exclusions and repair the harm caused by them. By adopting the significations of ecological epistemology, the institution will be in a better position to address these orders of epistemic exclusions and lessen instances of epistemic injustice.

In the first chapter, I introduce Cornelius Castoriadis' concept of the social imaginary in detail and explain how Lorraine Code makes use of this conceptual framework to identify problems with the epistemology of mastery and the corresponding advantages of her successor, ecological epistemology. I will explain the conflicts between the two epistemic systems by sharing two stories: one about WVO Quine and his reliance on the significations of ensemblistic-identitary logic and the need to control; and one about Rachel Carson and her reliance on ecological significations of socio-epistemic

situatedness, co-constitutive relational agency, and local responsivity. I end the chapter by sketching a case for an ecological analysis of Ontario's institution of public education.

In the second chapter, I give a historical account of formal public education in Ontario. I describe the relationships that constitute the institution as a complex ecosystem. I then do an in-depth analysis of the Ministry of Education's policy *Achieving Excellence* to draw attention to tensions between the instituted and instituting powers of the social imaginary. While there are instances within the policy that could be interpreted ecologically, they are limited in efficacy due to a continued reliance on/ deferral to the significations which comprise the epistemology of mastery.

In the third chapter, I introduce Miranda Fricker's epistemic injustice as a valuable tool to understand some of the negative effects on children's epistemic agency in Ontario's institution of education when policies are substantiated by the epistemology of mastery. Fricker identifies two types of epistemic injustice, testimonial and hermeneutical, which correspond to agential and structural causes, respectively. While Fricker's theory aligns well with many ecological significations, it is limited by a description of knowledge exchange as happening in a knowledge economy. I aim to show why acceptance of the conceptual framework of social imaginaries helps to make Fricker's theory more ecological, as does a reformulation of the knowledge economy to a knowledge ecology. I then make a case for using Kristie Dotson's *degree of change and/in epistemic systems lens* to track epistemic exclusions rather than epistemic injustices, since this lens is able to accommodate insights about social imaginaries and is more conducive to an ecological analysis.

In the fourth chapter, I apply Dotson's framework of epistemic exclusions to children who are subjected to Ontario's institution of public education. Emphasizing children's epistemic agency as a valuable and necessary part of ecological negotiations, I identify specific examples of epistemic exclusions that thwart their deliberative contributions in public schools. I begin with examples of first, second, and third-order exclusions that any child may face while the institution instantiates the epistemology of mastery. Then, more particularly, I introduce three examples of epistemic exclusions that Indigenous students may face, drawing attention to the influence of epistemic locations on ecological analyses. The epistemic commitments and significations of Indigenous social imaginaries are largely incommensurate with the epistemology of mastery, and so centring their experiences in Ontario's public schools serves to further motivate the capacity to world-travel as a desirable goal for institutions and their constitutive agents.

Chapter One: The Epistemology of Mastery and Ecological Epistemology

I. Introduction
II. The Social Imaginary – Instituted and Instituting Powers
III. Quinean Naturalized Epistemology and the Epistemology of Mastery
IV. Rachel Carson's *Silent Spring* and Ecological Epistemology
V. Conclusion: Ontario's Institution of Public Education

Introduction

Institutions of public education are integral to contemporary democratic societies because they fulfil the constitutional obligation of providing children access to free quality education. Children are indispensable to a society's flourishing, and education gives them a chance not only to survive, but to thrive. These institutions have a double function because not only do they develop and socialize children into the society's ways of life, but they are places wherein the best knowledge and values of a society are passed on to future generations, therefore they also work to develop and stabilize bodies of knowledge.

What does it mean for a child to thrive? There is considerable variance to proposed answers to this question, even within one society. This is because of the variability of symbols and associated values within the society's social imaginary, or system of significations, metaphors, images, representations, and frameworks with which a society and those living in it make sense of needs and wants, reality and experience. Lorraine Code calls the social imaginary "the rhetorical, conceptual architecture of the scientific

and epistemological world."[1] A social imaginary circulates normative ideals and expectations; it guides normative assumptions and affective sentiments, values that individuals have internalized but which in fact circulate externally within a community's social imaginary. Code writes, "As they make sense of their place, options, responsibilities within a world, both social and physical, people internalize, affirm, challenge, contest, or refuse these social meanings and imaginary significations, as members of that society or group."[2] This is especially true of children, who may be encountering significations and their effects for the first time. Children are nurtured into a society's habitus and ethos, socialized into the ways of life deemed viable and valuable by the instituted social imaginary. Education is one avenue by which this socialization process occurs.

One way of imagining a child's thriving is by evoking the logic and assumptions of the instituted social imaginary's dominant epistemic system, the epistemology of mastery. This framing sees education as working towards imparting or sharing objective knowledge in the form of absolute or universalizable claims. The normative guidance from the epistemology of mastery dictates that education should reflect the societal valuation of individual achievement and responsibility, including mastery of skills, habits

[1] Lorraine Code, "Thinking Ecologically: The Legacy of Rachel Carson," in *The Environment: Philosophy, Science, and Ethics,* eds. William P. Kabasenche, Michael O'Rourke, and Matthew H. Slater (MIT Press, 2012), 120.
[2] Lorraine Code, "'They Treated Him Well': Fact, Fiction, and the Politics of Knowledge," in *Feminist Epistemology and Philosophy of Science: Power in Knowledge*, ed. Heidi E. Grasswick (Springer Science + Business B.V., 2011), 210.

etc. that will enable them to participate in a meritocratic culture by becoming independent, resilient, and self-sufficient.

Another way of imagining a child's thriving is through the logic and assumptions of the instituting social imaginary, called ecological epistemology. Ecological epistemology sees agents as situated within particular epistemic landscapes, which bear on knowledge generation and dissemination. In its commitment to epistemic locations, it recognizes the social-historical specificities of knowledge making practices and attends to local particularities rather than aiming towards and insisting upon universal aims or claims. Ecological epistemology focuses attention on the composition and dynamics of epistemic communities and the structural conditions that make social deliberations about knowledge possible. This focus also allows us to see how estimates of epistemic agency and authority can become skewed, because knowledge is not apolitical or ahistorical, and negotiations about knowledge are enacted in an epistemic landscape which is infused with unequal power distributions. Attending to the asymmetries in this landscape forces epistemic theories and analyses to consider the ethical dimensions of knowledge in order to have more responsible knowledge. This framing is beneficial for children who are subjected to educational systems because their though their epistemic agency is situated and provides only partial knowings, it can be recognized as similar, in certain ways, to adults, and therefore they can be more readily involved in social negotiations of meanings and significations, even while they are young.

In this chapter, I will outline a case for the benefits of ecological epistemology over the epistemology of mastery insofar as they better prepare children for the material and

discursive realities of power-infused negotiations about knowledge and values within a society. The chapter will proceed in three parts. First, I will outline some background material on social imaginaries and their epistemic systems, arguing that institutions and structures are the best place to see the significations of our social imaginary and their effects. Second, I will elaborate on the epistemology of mastery through a paradigmatic example – Quinean Naturalized Epistemology (QNE). Because epistemic location is not recognized and is in fact devalued in QNE, skepticism toward QNE and, by consequence, the epistemology of mastery is justified, thus motivating Code's ecological epistemology as a successor. Third, while expanding on insights about epistemic location, I will introduce Code's ecological epistemology through an analysis of Rachel Carson's *Silent Spring*, noting how her work counters and subverts the epistemology of mastery. It is a story of how new meanings and significations from instituting powers can become instituted over time. These steps allow me to present a case outlining why an ecological analysis of a particular situated institution, Ontario's institution of public education, will help to identify and unsettle the instituted assumptions of the dominant, operative social imaginary. In the rest of the dissertation, I argue that this unsettling will have the beneficial consequence of helping the institution to become self-reflexive, which may lead to the reduction of experiences of epistemic injustices faced by the students subjected to the system.

The Social Imaginary – Instituted and Instituting Powers

The social imaginary, as theorized by Cornelius Castoriadis in *The Imaginary Institution of Society* is the system of significations, metaphors, images, representations, narratives, and frameworks with which a society and those living in it navigate their experiences and identities, allowing them to make sense of their relationships to the world and each other. For Castoriadis, a society is inexorably tied to its symbolic network, a system of significations constitutes the social world and allows members of that society to articulate the social world to themselves and others. Significations exist "in the mode of… the imaginary (or imagined)" and are collective in nature, meaning they do not depend on any individual agent's confirmation or contestation for their endured existence and influence on a society's discourses.[3] The meaning(s) of the significations within the system, or the social imaginary, "… can correspond to the perceived, the rational, or the imaginary."[4] According to Castoriadis, the meanings of some significations, though socially constructed, 'lean on' perceived facts about reality. Other significations are deduced from what is perceived, and these are rational significations. Yet others, however, which he claims to be *central significations*, do not themselves depend on perception or rationality at all. They are irreducibly socially constructed significations, and hence, they are entirely imaginary: these are just those significations which allow a society to organize its symbolic system into a relatively stable schema. Within the social imaginary, we "…arrive at significations that are not there in order to

[3] Cornelius Castoriadis, *The Imaginary Institution of Society* (MIT Press, 1987), 146.
[4] Castoriadis, *The Imaginary Institution of Society*, 139.

represent something else, that are like the final articulations the society in question has imposed on the world, on itself, and on its needs, the organizing patterns that are the conditions for the representability of everything that the society can give to itself."[5] The central significations of the social imaginary can be thought of as the organizing principles of the society, and they are instituted and reinstituted in the society's governance, entrenched in sanctioned institutions and practices.

Castoriadis argues that the primary problem with the modern Western social imaginary is its attempted elimination of the imaginary. For Castoriadis, significations and their meanings correspond to or 'lean on' the perceived, the rational or the imaginary. The crisis of the modern social imaginary, for him, is that the role of the imaginary has not been recognized. He argues that the substructure of the central significations has been imagined as rational rather than imaginary. The imaginary is thus eliminated, imaginary significations are reduced to the rational.[6] But in Castoriadis' view this reduction is not possible; the attempt results in the creation of pseudo-rational significations (which are imaginary significations). This denial of the importance of the imaginary and of society's ability to construct meaning socially is concomitant with the naturalization of central imaginary significations which have instituted a dominating logic, what Castoriadis calls an ensemblistic-identitary logic. This logic values certain imaginary significations such as simplicity, sameness, and repetition, but posits them as significations that reflect the perceived and the rational rather than the imaginary.[7]

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[5] Castoriadis, *The Imaginary Institution of Society*, 143.
[6] Castoriadis, *The Imaginary Institution of Society*, 159-60.
[7] Castoriadis, *The Imaginary Institution of Society*, 175. See also 181. The identitary logic is imagined to be a fully rational reflection of the real in

The dominating ensemblistic-identitary logic that regulates the central significations affects how a modern neoliberal society views and understands itself and its needs. Though it is (erroneously) understood to be rational and thus deduced from perception, this logic cannot capture the creative genesis of the social imaginary. For Castoriadis, the social imaginary contains a unique and creative generative and transformative power: the genesis of something other than what is or what can be deduced. The instituted pseudo-rational dominating logic leaves no room for the instituting power of the imaginary: the institution of new meanings and practices, new ways of living, knowing, and being. The symbolic network of the instituted social imaginary is not a closed system, it is open to contestation and renegotiation and multiple readings. Castoriadis emphasizes the contingency of these significations, even the central significations, which are only thought to be stable and 'given' because they are naturalized by being re-produced and re-instituted time and again across social dimensions. They are recurrently chosen by the privileged and powerful in society which gives the central significations their sustained influence.

Castoriadis uses the concept of the social imaginary to make a radical critique of the conceptual and rhetorical organization of his time and place.[8] Describing the radical

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the modern social imaginary, whereas Castoriadis diagnoses this logic as pseudo-rational.

[8] Cornelius Castoriadis, who lived from 1922-1997, was a Greek-French philosopher. Born in Greece, Castoriadis worked in France; he had a breadth of knowledge and experience in many fields tangential to philosophy – economics, psychoanalysis, etc. His critique in *The Imaginary Institution of Society,* published in 1987, centers on Western social imaginaries which have colonized other social imaginaries of other societies, leading to the dominant social imaginary of 'globalized' neoliberalism. See Timothy Andrews, "Between Athens and Paris: The Life and Intellectual Contribution of Cornelius Castoriadis," *Thesis Eleven* 161, no. 1 (2020): 14-22 for a biography.

transformative potential of the social imaginary as its instituting power, he demonstrates how the social imaginary is able to institute new significations, new practices, and new institutions. The denial or neglect of this power to create other is detrimental to modern neoliberal societies. He defines the central significations of society as constituting and perpetuating an ensemblistic-identitary logic that dominates the social imaginary, a logic which is reductive in nature, valuing sameness and repetition or replicability over difference and particularity. The valuation of universal, objective knowledge is derived through this logic. Further, he argues that "These significations appear only as they are carried by signifying structures; but this does not mean that they can be reduced to these, that they result from them in a univocal manner, or, finally, that they are determined by them."[9] We can best see how the ensemblistic-identitary logic organizes society and its constituents by analyzing distinct and concrete institutions. That the significations of the social imaginary can be studied through particular institutions gives us a starting point for understanding the social ecosystem of shared meanings and their effects on agency.

In *Ecological Thinking*, Code takes the concept of the social imaginary and the insight that the modern social imaginary is engaged in a reductionist project of reducing imaginary to (pseudo-) rational and combines these with her interest in epistemic location in order to ask a further question: how does our social imaginary (given its ensemblistic-identitary logic) shape and inform our theories of knowledge, as well as the subjectivities or agency of knowers? Recognizing that the central significations will only present

[9] Castoriadis, *The Imaginary Institution of Society*, 136.

themselves through signifying structures, Code looks at the ways epistemic theories inform a society's practices and institutions in order to answer this question. Code argues that the central significations, when informing theories of knowledge, have led to the hegemonic status of an epistemology of mastery. This epistemic system and the assumptions and significations upon which it leans influence many of our public institutions because it dictates what knowledge is and is supposed to be, placing boundaries on which projects are intelligible and worthwhile to pursue.

Code describes two main features of an epistemology of mastery that will be helpful to unpack further. The first is its use of the ensemblistic-identitary logic wherein everything is conceived of as neatly determinate, separable units or entities which are relatively fixed or stable. Reflecting a fixation on knowledge by causation, this logic seeks to explain the world as a series of interactions between individuated objects acting as either causes or effects. It depicts knowledge as bivalent, ahistorical and apolitical, assigning a hegemonic status to knowledge gained through scientific methods. It venerates "scientificity [and] statistical certainty, allegedly cleansed of distortions, feelings, vested interests, and other subjective elements," such as knowledge that is generated by controlled experiments and statistical mappings of impersonal data.[10] This affects the circulation and uptake of certain kinds of knowledge: objective knowledge is thought to be captured in descriptions of physical, causal relationships, and it is this kind of knowledge which is most highly valued. It amounts to a kind of reductionism where

[10] Lorraine Code, "Thinking Ecologically: The Legacy of Rachel Carson," in *The Environment: Philosophy, Science, and Ethics,* eds. William P. Kabasenche, Michael O'Rourke, and Matthew H. Slater (MIT Press, 2012), 125.

the complexity and relationality - the mutual constitution - of entities, persons, and ideas are sacrificed for the (imaginary) virtue of simplicity, mediated by determinability. It operates with uncontested assumptions about human sameness by relying on assumptions about human nature, where the imagined agent is independent, separate from and primary to relationships with others and the environment. According to Code, the epistemology of mastery's use of this reductive ensemblistic-identitary logic circumscribes the possibility of recognizing the importance of the social imaginary or epistemic location and how they meaningfully influence analyses of knowledge. A knower's epistemic location is thoroughly social, and indispensably historical, but the epistemology of mastery does not acknowledge this or its implications, and so denies its importance for knowledge circulation.

The second feature of an epistemology of mastery described by Code is an expressed need or desire to control. Modern Western social imaginaries are supported by a deep-rooted agonism, so that most interactions are seen through a lens of supposedly meritocratic competition: in a way this also reflects a reductionist mindset, where a hierarchical structure dictates that there can ultimately be only one at the top. The dominant instituted social imaginary currently leads to an anthropocentric view, where the relevance of the ecosystems in which we find ourselves are discounted for the interests of humans, which we imagine to be at the top of the control/dominance chain.

The desire to control accentuates the affective dimensions of a society, which ironically emphasizes individual detachment from affectivity in favor of a depersonalized mastery and control that allows an agent to attain ends set for oneself. This is the path to

the top of the hierarchy. The world is laid out before agents, open to any and all inquiry should one choose to inquire. Nature is naturalized, the world is conceived as something given and immutable. Agents can perceive the world accurately or inaccurately, and accurate perceptions result in gaining true knowledge of the things perceived. The epistemology of mastery, with its need to control, constructs a particular relationship between knowers and knowledge. We come to understand ourselves as independent individuals because we are subjected to significations and institutions that represent practices of knowing and ways of being that prioritize controlling oneself and mastering the complexity of the world by reducing it to what is determinable and controllable. Knowledge is an individual or agential achievement: an agent possesses knowledge, reflecting a rhetoric of possession. Knowledge is something "'acquired' for manipulation, prediction, and control of nature and human nature."[11] Knowledge is understood to be a commodity that confers and legitimizes the epistemic authority of those who possess it. With adequate knowledge, agents can master their emotions, attain their goals, and predict and manipulate others and the world around them. The impact of the social imaginary is neglected; if (social) meanings from symbols and significations are not working for an agent, they are thought merely to be something that agent has yet to control. Structural or systemic issues are similarly overlooked since the individual's perspective is privileged in analyses. To achieve excellence is to be a master (of oneself, or of some thing).

[11] Lorraine Code, "Thinking Ecologically: The Legacy of Rachel Carson," in *The Environment: Philosophy, Science, and Ethics,* eds. William P. Kabasenche, Michael O'Rourke, and Matthew H. Slater (MIT Press, 2012), 117.

As a successor to the epistemology of mastery, Code suggests we begin thinking ecologically. Her ecological epistemology entails that we challenge the central significations of the modern social imaginary. For Code, "Epistemic projects need to be conceived as collective-collaborative, situated endeavors."[12] The central significations of ecological epistemology are epistemic location/situatedness, co-constitutive relationality, and local responsivity.

In ecological epistemology, epistemic theories cannot be insulated from political and ethical affairs since issues of power and privilege shape what agents can know. The signification of epistemic location recasts the relationship between knowledge and knowers. Agents' positionalities are shaped by the social structures in which they find themselves. Agents are situated in particular social-epistemic locations which bears on what and how they know. Of particular importance is the primacy of structural influences over individual idiosyncrasies. For analyses that attend to epistemic location, Alison Wylie observes, "the situatedness of epistemic agents is construed in structural terms rather than as a matter of individual perspective or idiosyncratic skills and talents."[13] An epistemic location is both a place from which an agent knows, and a place that itself needs to be considered in epistemic analyses. Ecological epistemology is a thoroughly social epistemic system, analyzing social structures and relationships that bear on an agent's achievement of knowledge. This includes concerns such as which facts are taken

[12] Lorraine Code, "Thinking About Ecological Thinking," *Hypatia* 23, no.1 (2008): 192, https://doi.org/10.1111/j.1527-2001.2008.tb01174.x

[13] Alison Wylie, "What Knowers Know Well: Women, Work and the Academy" in *Feminist Epistemology and Philosophy of Science: Power in Knowledge*, ed. Heidi E. Grasswick (Springer Science + Business Media B.V., 2011), 162.

up and successfully circulated, since facts rarely speak for themselves. Structures of power and privilege sanction certain practices, making some projects seem intelligible and viable and others not worth pursuing.[14] These structures of power shape the epistemic landscapes in which agents find themselves, and affect each agent's socio-epistemic location within that landscape.

The signification of co-constitutive relationality is a radical reimagining of how individual agents relate to their world. It involves a refusal to treat the world as a machine composed of discrete, comprehensible, controllable bits, instead insisting that the world around us, our relationships to our environments and to other agents, both human and nonhuman, constitutes and shapes agencies in substantial ways. We become who we are through our relations, those we find ourselves thrown into and those we choose to develop. We do not first exist as an independent agent who then goes out to pursue relationships, the relations make us who we are. It is through these relationships that we can participate in social systems including knowledge generation and circulation. In Code's ecological epistemology, the subject transforms the object of inquiry, and vice versa. Knower and known are inseparable: the boundaries we typically use are not reflections of immutable 'natural kinds,' but are recognized as social constructions. Knowledge irreducibly involves social negotiation that transcends individual action, and so an ecological analysis must attend to these social and relational aspects of knowledge, and their effects on agency. Given the vulnerable relationality of persons, rather than

[14] See Lorraine Code, "Ignorance, Injustice and the Politics of Knowledge," *Australian Feminist Studies* 29, no. 80 (2014), 148-60. https://doi.org/10.1080/08164649.2014.928186.

independent individualism, the goals of ecological epistemology shift toward responsible knowing and ideal co-habitation rather than veneration of individual achievement or mastery.

The signification of local responsivity and attention to particularities is a methodological concern for ecological epistemology. It provides answers to questions of scope, about where to look for knowledge and what should count as knowledge. This signification dictates that we care about quotidian epistemic practices including those exchanges of knowledge which happen outside of formal settings like laboratories. Instead of aiming towards universality, an engagement with local particularity appreciates the diversity and multiplicity of situation and circumstance, leading to less generalizable but potentially more responsible knowing. It is worth extending inquiries into social-historical specificities to better understand context. The signification grants a central place to testimony, especially everyday testimonial exchanges. A responsivity to particularities does not dismiss individual experiences as being merely anecdotal but accepts their generative potential, as places from which to begin inquiries. Individual experiences may have great insights which can begin to unsettle discriminatory norms or lead to new significations that make different ways of living and knowing intelligible. By situating these individual experiences within the structural-situational factors which shape their very formation, ecological epistemology is able to take a bottom-up approach that considers how local contexts inform knowledge claims.

Quinean Naturalized Epistemology and the Epistemology of Mastery

In *Ecological Thinking*, Code introduces ecological epistemology by showing how her theory involves naturalist commitments that differ in substantive ways from Quinean naturalized epistemology (QNE). Code admits to being strongly influenced by QNE. She recognizes naturalism's emancipatory potential: in particular, she credits the naturalistic turn for desublimating reason in our social imaginary. According to naturalism, reason is a (natural) human product or activity rather than something supernatural or independent from humans. This is generally accepted due in no small part to the work of Quine. Quine's naturalist project of relocating reason from the supernatural to something dependent on human cognition and human activity has been very influential in Western societies. Naturalism disrupted the 'traditional epistemology' that preceded it, moving away from generalized abstraction and transcendental analysis toward empiricist experimentation. This shift has allowed for critical projects such as those informed by decolonial, postcolonial and feminist theories to be recognized and (somewhat) better instituted in the social imaginary (though their recognition continues to be spotty, most often these projects are still liminal). Nelson's *Who Knows: From Quine to a Feminist Empiricism* shows that at least some feminists see significant transformative potential in the naturalist project.[15] However, for Code, as for other feminists and critical theorists, Quine's own substantive naturalist view (QNE) is limited in scope and thus continues to thwart truly transformational possibilities. QNE is unable to enhance its emancipatory

[15] Lynn Hankinson Nelson, *Who Knows: From Quine to a Feminist Empiricism* (Philadelphia: Temple University Press, 1990).

potential, despite relocating reason in human persons because of its reliance on certain pseudo-rational (imaginary) significations, and its insistence that they are not imaginary but only perceived or rational, deduced from the perceived. Further, these significations contribute to society's ethos of the epistemology of mastery.

W.V.O. Quine

Willard Van Orman Quine is a well-respected and distinguished philosopher from the 20th century; one of the last truly great thinkers (as heard opined in philosophy departments in North America). He lived from 1908-2000; born in Ohio, USA, Quine received his PhD from Harvard and consequently held teaching positions at his alma mater for over 40 years. He first gained academic recognition for his 1950s arguments against the analytic-synthetic distinction in common use by logical empiricists (logical positivists) at the time. Ultimately, however, he is best known for introducing naturalized epistemology. In his own characterization, naturalism is "…the abandonment of the first philosophy and the recognition that science is our guide to reality."[16] This is a specific kind of naturalism, a substantive philosophical view Bryant characterizes as "Global Epistemological Naturalism: only scientific-empirical methods provide knowledge or justification."[17] When put this way, it is obvious that Quine's view is not a normatively neutral one. For Quine, epistemology is contiguous with (or reducible to) empirical science, for scientific knowledge and 'other' knowledge is not different in kind.

[16] Amanda Bryant, "Naturalisms," *Think* 19, no.56 (2020): 37. Doi:10.1017/S1477175620000196.
[17] Bryant, "Naturalisms," 45.

Knowledge, Quine theorized, has no *a priori* foundation; instead, agents gain knowledge *a posteriori*, or after experience.

According to this type of naturalism (QNE), the methods and techniques of science are our best options for identifying and describing reality (the world). Quine does take, strictly speaking, a wide view of what counts as science - he includes social sciences such as psychology, economy, and history.[18] At the same time, he argues that the natural (hard) sciences are paradigmatic for knowledge-making; for him, the ideal institution of knowledge production is the laboratory, rather than the armchair where reflection in traditional epistemology happens. Science, particularly the causal language of hard sciences, is our best hope to "limn the true and ultimate structure of reality."[19] He coins the term 'naturalized epistemology' to demarcate this new direction from the traditional epistemology that preceded it.

Code's Critiques of QNE

It is worth restating Code's own characterization of her issues with Quinean naturalism:

> First, its veneration of an idealized physical science as the 'institution of knowledge production' most worthy of analysis perpetuates a reductive scientism; second, Quinean naturalists' reliance on scientific psychology and cognitive science as straightforward routes to knowledge of human cognitive functioning begs the question about the epistemic status of psychology itself; and, third, Quinean naturalism works with contestable representations of physical and human "nature."

[18] See W.V. Quine, "Naturalism; Or, Living Within One's Means," *Dialectica* 49, no. 2-4 (1995) 252. In W.V. Quine, "Facts of the Matter," *Southwestern Journal of Philosophy* 9 no. 2 (1978), 166, he calls them 'more mundane pursuits', referencing astronomy, geography, and history in particular.
[19] W.V. Quine, *Word and Object* (Cambridge, MA: MIT Press, 1960), 221.

> Mindful of these limitations, my analysis is as critical of naturalized epistemology as it is indebted to it.[20]

Taken together, these criticisms are sufficient to warrant skepticism regarding QNE as an emancipatory epistemology. By unsettling the significations, we can both become clearer about the epistemology of mastery and its harms and make a more compelling case for Code's ecological epistemology as a viable successor. In the following sections I will elaborate on the first and third critiques, drawing attention to the tacit influence of the epistemology of mastery.

Critique One: Reductive scientism

QNE perpetuates a reductive scientism insofar as it venerates an idealized physical science as *the* institution of knowledge production. DeCaro and Macarthur call justifications for this reductive scientism 'the Great Success of Modern Science Argument,' which "argues from the great successes of the modern natural sciences in predicting, controlling, and explaining natural phenomena … to the claim that the conception of nature of the natural sciences is very likely to be true, and, moreover, that this is our *only* bona fide or unproblematic conception of nature."[21] In viewing science as having an "epistemic monopoly," QNE infers that there is ultimately only one kind of knowledge: scientific knowledge (though to be clear, for Quine, scientific knowledge is a

[20] Lorraine Code, *Ecological Thinking: The Politics of Epistemic Location* (Oxford: Oxford University Press, 2006), 72.
[21] Mario De Caro and David Macarthur, *Naturalism in Question* (Cambridge, MA: Harvard University Press, 2004), 4.

broad enough concept to incorporate philosophical and common sense theories as well).[22] Because of his insistence that all knowledge is ultimately the same in kind, QNE operates on an assumption of a (ideal) unified theory of science, which institutes a hierarchy between different branches of science. Quine argues that "Causal explanations of psychology are to be sought in physiology, of physiology in biology, of biology in chemistry, and of chemistry in physics - in the elementary physical states."[23] It is an assumption that guides his theory, even though that assumption has not been empirically proven, and in fact reflects the ensemblistic-identitary logic of the instituted social imaginary. Quine's acceptance of this pseudo-rational signification reinforces science's hegemonic status. For Quine, physicalism is what legitimates other theories, because 'the facts of the matter' are the interactions between discrete physical objects. Nelson, when analyzing Quine's "Facts of the Matter," argues that Quine believes physicalism, though not materialism "…will do as a general view about what counts as a factual matter."[24] If the objects posited in theories and the interactions between them are able to be counted as facts, they must be (eventually, in principle) translatable to a physical theory. Theories are 'legitimized' when underwritten by physics.

Consequently, the laboratory, where physics experiments are undertaken, becomes paradigmatically *the* institution of knowledge-production in the instituted social imaginary. QNE uncritically takes the laboratory and its scientific method as paradigmatic institutions for knowledge making and testing, since it is where agents can

[22] See Bryant, "Naturalisms," 46 for a discussion on science's epistemic monopoly on what is valued as knowledge.
[23] Quine, "Facts of the Matter," 169.
[24] Nelson, *Who Knows: From Quine to a Feminist Empiricism*, 119.

execute controlled, formal experiments. One of the reasons for this is that Quine thinks that unlike the methodology of armchair reflection, the laboratory, along with the scientific method, can eliminate social values from inquiries and explanations.[25] QNE does not scrutinize the laboratory or the scientific method practiced within: Quine rather takes it to be a rational consequence, given their success in prediction, that the methods of scientific inquiry (qua physics) just are the best methods for knowledge-production.

Because the laboratory allows for the inquiry to be controlled extensively, and the scientific method thought to generate objective knowledge, the individual experimenter who carries out the experiment is replaceable by any other. Their particular epistemic location has no bearing on the design, procedure, or outcome of the inquiry. The concern here is not just that in QNE the knower is an interchangeable individual devoid of any characteristics, it is also that the knower is thought of as an individual unit without any reference to his position in a larger community; his mutual constitution with others; or to the social relationships that make his epistemic agency possible. The primacy of the independent individual renders QNE limited in its potential to support the ecological epistemology Code advocates for. Constructing all epistemic subjects as so relevantly similar as to be interchangeable in experiments is the result of an assumption that every human has (more or less) a relevantly similar cognitive apparatus. These interchangeable subjects are a result of the acceptance of pseudo-rational significations utilized by QNE,

[25] There are feminist critiques of both the lab and the scientific method conceived as separated from social normativity. See Sandra Harding, *Objectivity & Diversity: Another Logic of Scientific Research* (Chicago: University of Chicago Press, 2015) and Helen Longino, *The Fate of Knowledge*, (Princeton, NJ: Princeton University Press, 2002), respectively.

taken to be real and rational reflections of the world rather than socially constructed or imaginary significations. For Quine, the primary epistemological agents are individuals. Code thinks we must eschew the individualism.[26]

Beyond assuming the legitimacy of the methods of scientific inquiry, QNE also assumes an idealized, unified future-perfect science. This idealized future science is not justified *a posteriori*, but it is normatively significant for QNE. The global force of Quine's argument relies on an idealized future science which has perfected the explanatory language.[27] QNE operates with a background assumption that one day there may well be a unified theory of the world, of science - and thus working towards this unified theory should be a goal in scientific inquiry. This exemplifies the reductive hierarchical structure of the epistemology of mastery. The unified theory of science implies that scientific inquiry is a hierarchical structure, which is reinforced by Quine's insistence that it is the methods used in the natural or hard sciences which procure paradigmatic knowledge. While he does take a rather wide view of what counts as science, including psychology, history and economics, there is an assumption that these 'less precise' (i.e., 'less pure', or "more mundane" in Quine's terms) sciences will one day be legitimized by a causal account of everything. As Sandra Harding describes QNE's position, "The sciences are fundamentally one, and the model for that one is physics."[28]

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[26] Code is not the first to criticize QNE for the ways it privileges the individual. This is also the critique Nelson makes of naturalism in *Who Knows: From Quine to a Feminist Empiricism*.

[27] The linguistic technique that will unify all the domains of science, for Quine, is the translation of all theories into *regimented observation statements* (i.e., statements of cause and effect). See Quine, "Facts of the Matter, 158-60. Also in W.V. Quine, "Epistemology Naturalized," in *Ontological Relativity and Other Essays*, 69-90. New York: Columbia University Press, 1969.

[28] Harding, *Objectivity & Diversity*, 15.

For Nelson, "It is clear that if theories must be of the sort that they can be rendered in first-order quantification, Quine is committed to the view that our 'scientific' theory, our most inclusive theory, will incorporate an ontology of discrete entities."[29] QNE commits us to the discrete individuated objects of physicalism, which is part of the ensemblistic-identitary logic.

The ensemblistic-identitary logic is such that it conceives of objects as individuated and independent, interacting with one another. The most successful science (in verification, prediction, control) is that of physics, which is (at least in the social imaginary) thought to be about causality.[30] Code's critique notes the limitations of casting (all worthwhile) explanation solely in terms of causality: this shapes how knowledge is signified in the social imaginary and circumscribes the acceptance and proliferation of knowledge that falls outside physicalism. The veneration of Quine's five virtues of hypotheses[31] – conservatism, modesty, simplicity, generality, and refutability – has proliferated affective significations that shape how knowers understand their relationship to knowledge. To know is to be able to predict – and thus to control - either oneself or some separate phenomena. QNE, insofar as it assumes that the language of causality leads to the most objective knowledge possible for humans, ends up perpetuating several

[29] Nelson, *Who Knows: From Quine to a Feminist Empiricism*, 123.
[30] There are ongoing contemporary philosophical debates about whether science can be reduced to causality. See James Woodward, "Causation in Science," in *The Oxford Handbook of Philosophy of Science*, ed. Paul Humphreys, 163-184 (Oxford: Oxford University Press, 2016).
[31] W.V. Quine and J.S. Ullian, "Hypothesis," in *The Web of Belief*, 64-82 (New York: McGraw-Hill, Inc., 1978).

assumptions about knowledge (and knowers) that are reflective of the epistemology of mastery.

What makes QNE's scientism perniciously reductive is its stance on the affective dimensions of science. Science, in Quine's estimation, is wholly separated from values: as he sees things, "Scientific theory stands proudly and notoriously aloof from value judgments."[32] This would mean that science is whatever is left once we have subtracted values from inquiry. This conundrum of what counts as standing outside of normative influence is called the demarcation problem: what counts as science? How do we distinguish science from non-science? DeCaro and Macarthur explain further: "The point is not just that there is no single method or set of methods that is properly called *the* scientific method, but, more than this, that there is no clear, uncontroversial, and useful definition of science to do the substantial work scientific naturalists require of it."[33] Code's critique of QNE is that this separation of values from science is not possible, and thus QNE commits us to a reductive scientism that in principle cannot account for the ways in which science and inquiry generally are motivated by and thoroughly enmeshed with the values of a society. Code argues that the places where knowledge is made and negotiated extend beyond both the armchair and the laboratory, both of which have been historically occupied by cis white male bodies. Following the spirit of naturalism, it is imperative to any theory of knowledge that the methods and locations of knowledge-making themselves also be open to scrutiny: we will not get more pure knowledge by

[32] W.V. Quine, "Breaking into Language," in *The Roots of Reference* (La Salle, IL: Open Court Publishing Company, 1974) 49.
[33] De Caro and Macarthur, *Naturalism in Question,* 15.

purifying the language (i.e., clarifying and simplifying, or translating into regimented observational statements), because that is a way of organizing, not purifying. It is not normatively neutral. Knowledge is dynamic and negotiated, so analyses beyond the scientific method are needed. Social and political values are inseparably enmeshed in the very methods of scientific inquiry. A definition of science that *a priori* distinguishes and separates science from values is too reductive to capture the diversity of knowledge practices in the world. The conception of science as separate or distinguishable from norms and values is a consequence of the signification of the ensemblistic-identitary logic.

Critique 2: Uses Contestable Terms

Quine, in unsettling the assumptions of traditional epistemology, hoped to replace the method of armchair reflection with methods of inquiry that are performed in a laboratory, led by observation, and thus proposing an epistemic theory more 'natural' than its predecessors. However, what Quine means by 'natural' is not always clear. Both the words 'naturalism' and 'nature' (whether referring to human nature or nature more broadly) are ambiguous, and it is not at all obvious that everyone is referring to the same thing when they use these words (in fact, it is more likely this signification clusters together a constellation of meanings).[34] Quine criticizes words for their lack of clarity,

[34] In the *Stanford Encyclopedia of Philosophy* article "Naturalism in Epistemology" Patrick Rysiew admits this that the 'natural' in 'naturalism' is contestable, writing "…it is difficult to characterize [naturalistic epistemology] precisely, since 'naturalism' is used to refer to a range of positions, commitments, and so on. NE, then, is more a movement or general approach to epistemological theorizing than it is some substantive thesis."

notably the words of traditional epistemology which he seeks to replace with his naturalist epistemology, words such as 'analyticity/synonymy', 'ideas' etc., but somehow does not see 'natural' as similarly ambiguous.[35] However, the concepts of nature and human nature and their accompanying assumptions do a lot of heavy lifting in scientific theories about the world and about knowledge. Though QNE claims to care about clarity and objectivity in terminology, Code's critique is that it uses terms that are nebulous, ambiguous, and can be multiply instantiated – and calls them natural, denying their social construction. In QNE, natural kinds are invoked as justification for the boundaries or cuts into reality made during scientific inquiries. Because science is thought to be wholly separate from values, the social construction of these kinds is neglected. What is natural, Code asks, about nature? About human nature? By relying on these terms, Code argues that Quine denaturalizes both the knower and the known:

> For the known, they preserve the monocultural purity of a statistical formalism that glosses over differences and specificities within "natural kinds," while the knower, who can be everyone or anyone, is merely a neutral place holder, occupying a place abstracted from all "natural" knowledge-enhancing or knowledge-thwarting relationships and surrounds.[36]

QNE, in its pursuit of universality and objectivity, tends to disregard differences and specificities amongst knowers. It excludes, *a priori*, the epistemic location of knowers, even as that location bears on knowledge. One reason the Quinean subject is unnatural, in

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Patrick Rysiew, "Naturalism in Epistemology," *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, last modified August 12, 2021. <https://plato.stanford.edu/archives/fall2021/entries/epistemology-naturalized/>.

[35] Quine, "Facts of the Matter," 155-56.

[36] Code, *Ecological Thinking*, 76.

Code's view, is because QNE necessarily excludes the social and historical relations, including power dynamics and systemic issues, for the sake of simplicity and clarity. But leaving out such an important and inseparable aspect of human life does a disservice to the myriad practices enacted out of the laboratory but which we still want to say count as knowledge. For Code, "In confining their analyses to self-contained, isolated, one-on-one, observer-observed experiments, Quineans denature both knower and known."[37] QNE is not a viable epistemology if it precludes analyzing knowers' epistemic locations and the social-historical specificities of knowledge-making practices.

QNE tacitly devalues any knowledge that is not replicable in a laboratory setting. It creates or constructs its own demarcation of what counts in terms of inquiry, and therefore it is not as thoroughly 'natural' as Quine had hoped. Code argues that what is understood as natural in QNE can be understood as that which is organized through the central significations of the ensemblistic-identitary logic. For all of Quine's attempts to sanitize epistemology from values, from normativity, he substitutes empirical science in a way that gives it normative valence: it constructs subjects and limits what they can know.[38]

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[37] Code, *Ecological Thinking*, 75.

[38] Quine justifies the boundary between science and values by a strange, circular, appeal to natural selection, so he does give a scientific account of how values came to be a part of an individual's psyche, even while in the same breath denying the connection between science and values. This commits Quineans to coming down hard on the side of nature in the nature/nurture debate, even though it is far from currently settled (I am agnostic about nature/nurture, and I think that for QNE, basing other arguments on this contestable use of human nature weakens his account). It also precludes from inquiry the influence of the social imaginary.

Science (especially if understood as value-neutral) does not exhaust all the things agents care about or have knowledge of. QNE is committed to the universality and objectivity of scientific knowledge, using significations of 'natural kinds' divorced from their social construction, and justifying these commitments on the basis of predictive success, or ability to control. This reflects an intertwining of the two central significations of the epistemology of mastery: the ensemblistic-identitary logic and the desire to control. Even more perniciously, these commitments and justifications extend to other discourses within the social imaginary. They reinforce an individualism that pervades how knowers think of themselves and their relationship to knowledge. QNE perpetuates the value of individual mastery.

A Successor to QNE

Taken together, Code's criticisms justify a skepticism toward QNE as a viable and emancipatory epistemology. This skepticism is sufficient to make space for a new, reimagined epistemology that takes the minimal emancipatory potential of naturalist epistemology and expands that potential by taking seriously the social-structural systems that bear on practices of knowledge generation and dissemination. Code's response to these criticisms is to propose a naturalistic successor theory – ecological epistemology. Ecological epistemology reiterates the importance of the social imaginary and social negotiation of knowledge – our theories of knowledge must go beyond the individual. Code is critical of the desire to reduce all knowledge to those things an individual can know based on their cognitive capacities. Code's ecological epistemology insists on

recognizing the collective - the social imaginary, the specific structures and relationships agents find themselves in when making, sharing and negotiating knowledge. To be clear, Code does not want to discount the success of physical sciences, instead she questions a principled reduction of all knowledge to the individual level (an *a priori* reduction, she might add). This renders our conception of knowledge incomplete, waiting to be enriched by the inclusion of structural analyses of epistemic location.

More than just caring about Quine's own view, Code's ecological epistemology requires that we pay attention to the ways QNE has been instituted in the social imaginary; beyond how philosophers or scientists value and utilize the principles of QNE, to the ways that whole communities and institutions have internalized its significations. Because knowledge is negotiated collectively, we should chart how these negotiations proceed and are instituted. Following Castoriadis, Code's ecological epistemology contends we can best see how the ensemblistic-identitary logic organizes society and its constituents by analyzing institutions, including but not limited to the laboratory. Institutions are shaped by intentions, but also by materialities and power dynamics. Individual knowers who are epistemically situated so as to have political power have the privilege of further entrenching the problematic significations of the dominating ensemblistic-identitary logic. These privileged agents are not necessarily going to bring all the complexities of Quine's thought to social negotiations, for they have also internalized QNE's virtue of simplicity. It would not do to provide a causal account of how such an individual knower came to be committed to the commitments of QNE, because such an account fails to capture all of what we care about. Understanding

the negotiation of knowledge as an ecosystem is a more responsible starting point for our inquiry because it recognizes the mutual constitution and reciprocity of knowers and knowledge.

In contradistinction to QNE, in Code's ecological epistemology, the knower's epistemic location is of paramount importance in assessing claims of knowledge. This places knowledge first and foremost within the larger social imaginary of a society rather than in individual bodies. An epistemology that subscribes to ecological naturalism will imagine knowers "from positions located squarely within the power-infused rhetorical spaces where knowledge making and knowledge circulating occur."[39] Code's critique of QNE is a critique applicable to any theory that limits all epistemic inquiry (or epistemic theories) to descriptions of interactions between individuals and the sense data they encounter. Not only does this description paint a rather passive picture of how an individual negotiates with the world, and how the world changes him, it also overlooks how the significations about natural kinds and the matrices of identity categories constitute his agency and identity. This limited description precludes serious inquiry into the social aspects of knowledge-making, including the social imaginary. It is not enough to study individual cognition. It is also not enough to add together all the individuals' knowledge - knowledge is negotiated and organized through tacit assumptions in our social imaginary that are everyone's and no one's. Ecological epistemology provides a way to unsettle the unquestioned assumptions regarding knowledge-making practices through its insistence on including epistemic location and the influence of the social

[39] Code, *Ecological Thinking*, 32.

imaginary in analyses of claims to know. Ecological epistemology accepts the successes of empirical knowledge gathering processes and practices, but it seeks to further analyze the social-historical specificity of knowledge-making practices and expand what counts as such practices beyond what the reductive scientism of QNE leaves us.

The social imaginary is something over and above an individual's own conception of the world: it is that through which individual agents understand the world, and it is with these significations or organizations that facts are advocated for, confirmed or denied, entrenched or rejected. These are some of the processes of knowledge-making. Knowledge cannot exist independently of a community of knowers. It arises out of socially-historically located, concrete, actual knowers with shared and entangled histories.

A key difference between QNE and ecological epistemology, both being naturalistic epistemologies, is that typically QNE has as its goals simplicity, truth, prediction, and reliability, a reflection of the two central significations of the epistemology of mastery, while ecological epistemology has emancipation and living well (together) as its goals due to its organizing significations of epistemic location, co-constitutive relationality, and local responsivity. While QNE participates in a reductive scientism and uncritically uses the contestable terms of 'natural' and 'nature', ecological epistemology distinguishes itself by prioritizing difference over sameness, being suspicious of reductionist projects, allowing for different kinds of knowledge generation to be equally as valid and valuable as the theories coming out of the physical sciences, and attempting to unsettle justifications that rely on ambiguous meanings. It is wary of the ensemblistic-identitary

logic and the independence individualism it presupposes. In its stead, ecological epistemology stresses the mutual dependency and vulnerability of knowers. It cares about the social and political values that influence inquiries. QNE must presuppose that prediction, reliability and falsifiability are always neutral and adequate indicators of knowledge, whereas its successor understands these virtues of inquiry to be value-laden and socially constructed. Everything, including methods of inquiry, has elements of social construction and vestiges of power dynamics which influence how knowledge is socially negotiated.

Rachel Carson's *Silent Spring* and Ecological Epistemology

Let us turn to an emblematic example of ecological epistemology to unpack its three central significations in more detail. In the space made by a warranted skepticism regarding the emancipatory potential of QNE, Code makes a case for her ecological epistemology through a close reading of Rachel Carson's ecological practice in *Silent Spring*.[40] Code argues that the research that culminated in *Silent Spring*, and the subsequent public negotiation of that research demonstrates a paradigmatic example of ecological thinking. *Silent Spring* is such an example for Code precisely because it demonstrates concretely how new social-natural facts and their organizing significations are created and then instituted in society, namely, the significations of co-constitutive relationality and local responsivity. Castoriadis describes two powers of the social

[40] Rachel Carson, *Silent Spring* (New York: First Mariner Books, 2002). *Silent Spring* was first published in 1962.

imaginary: instituting power and instituted power. As explained by Mouzakitis in *Cornelius Castoriadis: Key Concepts:* "the 'instituting' moment refers to the dynamic creation of unprecedented forms of life, their introduction to - and subsequent establishment in - the common social world." This is in opposition to the instituted power of society, where "the 'instituted' moment is the moment of the mere re-production."[41] In our two paradigmatic examples, QNE illustrates the instituted significations of the epistemology of mastery, while *Silent Spring* illustrates the instituting significations of ecological epistemology. The creative instituting power to create new and other possibilities is of particular interest to Code, since it is the instituting power "through which imaginatively initiated counter-possibilities interrogate the social structure radically enough to destabilize its pretensions to naturalness and wholeness."[42] By looking at the impact *Silent Spring* has had on the social imaginary, showcasing how new knowledge becomes instituted over time, we gain a better understanding of how actual changes come about in a society's social imaginary, how significations can alter a society's self-understanding, which ultimately can change norms about which practices are deemed possible or acceptable.

Carson's *Silent Spring* should be understood as an instance of instituting power, of creating and making space in the social imaginary for the conclusions for which she advocates. By following the aftermath of the text's publication, its initial institution, we can see how new meanings become instituted or re-produced in the social imaginary:

[41] Angelos Mouzakitis, "Social Historical," in *Cornelius Castoriadis: Key Concepts*, ed. Suzi Adams (New York: Bloomsbury, 2014), 93.
[42] Code, *Ecological Thinking*, 123.

through processes of ongoing advocacy and negotiation within a community. The meanings and significations that are created are then instituted in social structures and systems. In the case of *Silent Spring*, the structures through which these new significations are most obviously instituted are the laws that were enacted to govern peoples' and corporations' behaviors as a response to Carson's work.

Let us look at the nebulous cluster of events that surround *Silent Spring* as an instance of instituting power. We shall pay particular attention to instances or prototypes of ecological epistemology's three central significations: epistemic location, co-constitutive relationality, and local responsivity. First, we shall consider Rachel Carson's own situated epistemic location to glean insights on the motivations (both personal and collective) that provoked her ecological research. Next, we shall delve into the content of *Silent Spring* itself, to show how the ecosystems are literal, metaphorical, and relevantly epistemic. Finally, we shall consider the uptake and changes to the social imaginary that have occurred since publication, demonstrating how something with instituting power becomes instituted in the social imaginary.

Carson's Epistemic Location

Rachel Carson (1907-1964) was a Johns Hopkins educated biologist. After her education she became a science editor for the U.S. Fish and Wildlife Service, she also freelanced for several popular publications such as Reader's Digest. Before beginning her research for *Silent Spring*, she published three other books about marine biology: she

received the 1952 National Book Award for *The Sea Around Us.*[43] She was revered by the general public for her prose and her rigorous yet accessible research, but above all for the sense of wonder and love of nature she conveyed and inspired in her readers.[44]

In the post-World War II United States of America, where Carson lived and where her research was conducted, pesticides were gaining increasing popularity. DDT, or *dichlorodiphenyltrichloroethane* (di-chloro – di-phenyl – tri-chloro – ethane) was considered a miracle chemical. It was thought to be useful for killing all types of insects with no adverse effects for humans. Pesticides were generally thought to be good for people, homes, and farms. In advertisements from the 1940s and 50s, consumers sprinkled DDT around their refrigerators, under rugs, and into pianos. In 1944, *Time Magazine* published an article on DDT in its science section, explaining that production had multiplied 350-fold in one year, with the Army now procuring 350,000 pounds per month.[45] Not only was DDT used around the home and on crops, but it was also used in the military after Pearl Harbor to protect people from typhus (lice). The military literally sprayed people with this pesticide; soldiers and civilians alike became "de-loused" with DDT. More than a million people were dusted with DDT, and as a result, a typhus epidemic was avoided. This was regarded as a great success that added to pesticides' regular and increasing use.

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[43] Rachel Carson, *The Sea Around Us* (London: Panther, 1965). The work was first published in 1951.
[44] This is reiterated often in Carson's biography. See Linda Lear, *Rachel Carson: Witness for Nature* (New York: Holt, 1997).
[45] "Science: DDT" Time Magazine. Monday June 12, 1944. https://content.time.com/time/magazine/article/0,9171,775033,00.html

Fig. 1: *DDT saves millions of humans, kills millions of insects.* ("DDT Is Good for Me-e-e!" June 30, 1947, *Science History Institute*, Philadelphia).

DDT, a synthetic chemical, was first created in 1874, though its use as an insecticide was not discovered until 1939. For 20 years, use of DDT as a pesticide continually increased. Most everyone thought this was a good thing - it solved a problem as the problem was conceived in the social imaginary of the time. It was heralded as an example of human progress, a demonstration of science's power to successfully solve human problems and make life better for us. But it is also no surprise that the general public approved of the chemical, when one considers how DDT use became instituted in the social imaginary. DDT use was advertised very heavily and aggressively by the chemical industry. Further than this, it was endorsed by various institutions of the US government. For example, public health tried to demonstrate its safety for humans. *Time Magazine* (June 1944) praised it, evidence that popular media was also influencing and reinforcing the messages from government and industry, and thereby influencing everyday

consumers' use. A number of trusted institutions reinforced (and therefore instituted in the imaginary) the perceived positive effects of DDT.

Fig. 2: *Black Flag DDT Insecticide* ("No Flies on Me Thanks to DDT," Vintage *Black Flag* advertisement, accessed January 26, 2020).

Not everyone was so optimistic about DDT, however. Carson herself credits the motivation for researching the harmful effects of chemical use to a letter from a friend

who owned a bird sanctuary. After the sanctuary was sprayed with DDT in 1957, there was evidence of harmful effects of poisoning in the birds, wrote the friend. The letter begged Carson to find help.[46] Carson set out to do the research that would eventually be published as *Silent Spring*. The name of the text is a warning about the silence that irresponsible widespread DDT use has brought to the spring season, which is usually full of birdsong and other sounds of life.

Silent Spring was first published in 1962. It was written in Carson's signature easy to follow and accessible prose, again showcasing her sense of wonder and love of nature, and again passing this love on to her readers. The text soon became a national bestseller. It was also considered the most controversial book of the year. In 1962, the USA was at height of the Cold War. The social imaginary was unsettled, affected by a growing uncertainty in the future, but the central significations endured, maintaining an unwavering faith in science and progress. It is important to understand at least some aspects of the dominant social imaginary in which Carson advocated her research. In recognizing her epistemic location, we must recognize Carson as embodied and socially-morally-politically situated. She exhibited her caring disposition by being responsive to her friend's concerns, and this responsiveness explicitly directs her research. She used her technical training as a biologist, as a scientist, to formulate new questions for scientific inquiry. She was socially-morally-politically situated as a concerned scientist within a social imaginary that privileged reverence for science and progress in such a way that had

[46] In the letter, Carson's friend appealed to the government, asking Carson to "get help from Washington", even though the government had helped to institute DDT's use, raising its public image and value.

instituted an enthusiasm for and an endorsement of pesticides, despite their effects being ill-understood. Now we can turn to the research within *Silent Spring* itself.

Ecosystems in Silent Spring – Literal, Metaphorical and Epistemic

In *Silent Spring*, the ecosystems are: (1) literal (2) metaphorical and (3) epistemological.

(1) Literal

Some of the literal ecosystems that are analyzed in *Silent Spring* are the traditional objects of study of ecological research. *Silent Spring* considers the effects of DDT on soil, groundwater, birds, and fish - our chthonic and animal kinfolk.[47] Further than this, Carson brings together research from many scientific disciplines to show how ecosystems are sympoietic (made-with) rather than autopoietic (self-made). Ecosystems are not closed systems, and human intervention can have effects beyond what is intended or even understood. Part of Carson's analysis aims at incorporating the costs of human intervention into scientific research: she shows why it is important to map effects beyond just the stated or intended consequences of the intervening action. This is an important challenge to the received methodology in the instituted imaginary which imagines science and scientific progress to be in service of improving human lives first and foremost.

[47] Nod to Donna Haraway, *Staying With the Trouble: Making Kin in the Chthulucene* (Durham: Duke University Press, 2016).

In *Silent Spring* Carson looked at the ways humans are situated in and mutually constituted by the world, anticipating what has come to be known as intra-action. Organisms and their environments were usually thought of as separable in the instituted social imaginary at the time (thanks to the ensemblistic-identitary logic, a signification that persists to this day). According to Barad, intra-action "*signifies the mutual constitution of entangled agencies.* That is, in contrast to the usual 'interaction,' which

> assumes that there are separate individual agencies that precede their interaction, the notion of intra-action recognizes that distinct agencies do not precede, but rather emerge through, their intra-action. It is important to note that the 'distinct' agencies are only distinct in a relational, not an absolute sense, that is, *agencies are only distinct in relation to their mutual entanglement; they don't exist as individual elements.*[48]

Carson challenged the dominant understandings of humans' relationship with nature. The attitudes found within the instituted social imaginary combined a faith-like respect for science and technology with seemingly unending possibilities for progress, domination, and control. *Silent Spring* unsettled these attitudes since the research highlights connection and (inter)dependency beyond interaction between fixed objects towards co-constituted relationality of agencies. The research makes a case for the environment becoming a necessary part of study in understanding what an organism is. In

[48] Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham: Duke University Press, 2007), 33. Emphasis in original. See also endnote 23 from "Introduction," 408. Barad, Professor of Feminist Studies, Philosophy and History of Consciousness at UC Santa Cruz has a doctorate in theoretical particle physics. In her book Barad uses the science of quantum physics to establish unambiguous empirical evidence for the existence of intra-acting (rather than interacting) agencies.

other words, a scientific object of study needs to be situated in its habitat, in its ecosystem(s) in order to gain better understanding than looking at it in isolation (in a laboratory) would allow.

(2) Metaphorical

The metaphorical ecosystem in *Silent Spring* is a vernacular ecosystem. Carson wrote within and across disciplines to different audiences with varying responsibilities regarding DDT overuse. *Silent Spring* brings together disparate studies on DDT use, each examining effects on different ecosystems, and makes their results available to the general public. By writing in the vernacular Carson was able to reach a wider audience and allowed more people access into the negotiations surrounding DDT usage. *Silent Spring* helped to disseminate results from a variety of scientific inquiries on DDT, but more significantly than this, Carson weaved the science with a normative argument to make this research relevant to her audiences. She made complex scientific knowledge accessible by drawing analogies between invisible radiation from nuclear fallout (something Cold War-era North Americans were acquainted with) and invisible effects of pesticide spraying. Carson skillfully drew on the current events and shared feelings (i.e., affective investments) of her time in order to make her normative argument even more efficacious. Situating the scientific research in a normative argument that draws connections across disciplines, events and stakeholders is a practice of ecological thinking because it recognizes the importance of advocacy and negotiation in knowledge-making. Like Code says, “evidence rarely speaks for itself either in its claims to count *as*

evidence or in its meanings and implications."[49] Social-natural facts require advocacy. Carson made space for new ideas and new justifications in the social imaginary by unsettling instituted meanings and advocating new meanings for significations used in her argument, and by presenting these new meanings to a wider audience than is typically imagined for scientific research. This prefigures the signification of local responsivity by showing how reverence for local particularities is necessary for generating responsible knowledge. By looking at particular ecosystems in their local complexities and then making analogies alongside things her audience knows and cares about, Carson shows a respect for everyday knowledge exchanges and generates more responsible knowledge about the ecosystems which she researched.

(3) Epistemic

By looking at the literal and metaphorical ecosystems guiding Carson's research, we have seen an exemplar of the social aspects of knowledge-making. *Silent Spring* challenges some of the central instituted norms of the social imaginary: notably about individualism, place, and progress. Her research exemplifies care for and responsibility towards the ecosystems that she researched, presenting a challenge to the dominant instituted social imaginary with its significations of ensemblistic-identitary logic and the desire to control. Carson questioned the boundaries around scientific objects of study and especially the omission of the importance of place, insisting that erasing place and habitat from scientific inquiry is irresponsible since organisms are actively entangled with, intra-

[49] Code, *Ecological Thinking*, 23.

active with, their environment. Carson took insights from studies which isolated things in a laboratory, but her work showed that this is an incomplete picture unless we also study these things in their natural habitats, in the environments with which they are mutually constituted or intra-active. The environment shapes agencies, human and non-human, and those agencies shape environments. One cannot separate them artificially and hope to get objective knowledge. Scientific inquiry must also trace across different locations, using different technologies and methodologies from a variety of disciplines, becoming more responsive to local particularities. It is a prejudicial attitude to think the laboratory is the paradigmatic location of knowledge-making – one that influences how we view data and inquiry.

The research in *Silent Spring* also questioned the narrative of progress (an element of the signification of control) that dominated the social imaginary by unsettling what were seen as common-sense goals in her society. In her work, Carson pointed to contradictions between 'progress' as an ideal and the practices used (spraying DDT universally). Carson issues a warning:

> We stand now where two roads diverge. But unlike the roads in Robert Frost's familiar poem, they are not equally fair. The road we have long been traveling is deceptively easy, a smooth superhighway on which we progress with great speed, but at its end lies disaster. The other fork of the road—the one "less traveled by"—offers our last, our only chance to reach a destination that assures the preservation of our earth.[50]

[50] Carson, *Silent Spring*, 276.

She brought up concerns through local case studies and analogies to demonstrate that spraying DDT for pesticide use had effects that went far beyond the intended targets. The research contained a cautionary warning against using pesticides without understanding their impact on the ecosystems in which they are used. Her normative conclusion was a moderate one: that society needs a greater awareness of the ecosystem in which the pesticides are used if pesticides are to be used responsibly.[51] Otherwise, using pesticides to 'master' or 'dominate' the environment may seem like 'progress', may seem like an improvement for human lives in the short term, but in fact causes many adverse, unpredictable, and misunderstood effects. The (at the time common-sense) ideal of progress, understood as control or mastery of nature (by humans) was made strange by a new mapping of facts and research.

In an instituting moment in the social imaginary, a new narrative was implemented with the ability to confront the dominant narrative of mastery, one that was more sensitive to the local and the particular in inquiry. *Silent Spring* offers us an example of that new narrative. This narrative, rather than arbitrarily cordoning science off from values, makes clear connections between facts and values, understanding them as intra-active and entangled. *Silent Spring* weaves rigorous scientific inquiry together with things people care about, recognizing that data does not speak for itself, and hence there is an affective dimension of scientific inquiry that involves the advocacy and negotiation of theories and knowledge. In order to best understand the epistemological ecosystem of

[51] Carson, *Silent Spring*, 283.

negotiation, the new narrative suggests what is needed is a methodology that respects multifaceted chartings and maps across objects, disciplines, and normative commitments.

Negotiating Significations

Carson's research illuminates the social aspects of knowledge-making. But one cannot grasp the full impact of *Silent Spring* without looking at the negotiations of the social-natural fact(s) after it was published. Code credits Carson as a cataclysmic figure who helped start the modern environmental movement. Carson's critique of pesticide use was instituted in the social imaginary over time and only with much advocacy. *Silent Spring* ultimately cemented the critique against pesticide overuse in the social imaginary. Her narrative challenged the significations of human domination and mastery. As Carson says on a CBS video interview:

> The balance of nature is built of a series of interrelationships between living things and their environment. You can't just step in with some brute force and change one thing without changing many others. Now this doesn't mean, of course, that we must never interfere… but unless we bring these chemicals under control we are almost certainly heading for disaster.[52]

Who Carson was as a researcher and her relationships with various persons and various social perspectives allowed her to gain information and to be able to advocate for her work in the 'right' places. That is, her epistemic location helped her to negotiate the social-natural fact(s)/knowledge contained within *Silent Spring*. After it became a bestseller, Carson was thrust into the public eye: for instance, she was interviewed on an

[52] Rachel Carson, *The Silent Spring of Rachel Carson*, CBS Reports (aired April 3, 1963, Columbia Broadcasting Service), television.

hourlong CBS news documentary. *Silent Spring* had a mixed reception, with different groups having differing responses. Despite, or perhaps because of, its national bestseller status and accessibility to popular audiences, there was a long, public back and forth of critique and commentary on the work, not just by academics, but by many stakeholders. The pesticide industry, agriculture industry, the government, public health, and researchers in medicine, chemistry, biology, all have interests in pesticide use, and used their epistemic authority legitimized by the social imaginary to undermine and challenge Carson's claims.

The general reaction of powerful stakeholders was to attack the messenger. In the public eye, she was under scrutiny as well as attack. Scientists began taking adamant stances against Carson, making claims such as "If we followed her, we would return to the Dark Ages" and "Ms. Carson maintains that the balance of nature is a major force in the survival of man. Whereas, the modern chemist, the modern biologist, the modern scientist, believes that man is steadily controlling nature."[53] Carson was portrayed almost as a heretic. Her conclusions were seen by some as an attack to modern technological science. However, by creating a normative conceptual framework that made space for a new understanding of how humans relate to each other and the world around them, Carson's research changed the kinds of questions that are asked about the environment. She was an instigator, not a heretic. Her research is an example of instituting power of the social imaginary, the critical-creative power to create new significations and imagine

[53] Robert White-Stevens, spokesman for the agricultural chemical industry, in Rachel Carson, *The Silent Spring of Rachel Carson*, CBS Reports (aired April 3, 1963, Columbia Broadcasting Service), television.

different futures. This is a demonstration of the emancipatory benefits of Code's ecological epistemology – it insists that we can change the social valuations of symbolic networks through instituting power.

Eventually, the discussion of pesticide uses, especially concerning the usage of DDT, made its way to John F. Kennedy, the president of the USA at the time. JFK authorized new inquiries on DDT use, mentioning Carson's research directly. The epistemic authority that accompanies the presidential position proved to be influential. Less than a year after publishing *Silent Spring*, on June 4, 1963, Carson testified before a Senate subcommittee about the harms of pesticide use. At that hearing, a Democratic senator affirmed her research: "Every once in a while, in the history of mankind, a book has appeared which has substantially altered the course of history."[54] Though Carson sadly succumbed to breast cancer in 1964, *Silent Spring* remains a tangible contribution to an environmentalist movement in the United States that, amongst other policy changes, brought about the ban of DDT spraying by 1972.

Code imagines Carson as a cataclysmic figure in many different movements, united by their subversion of entrenched power structures and "energetic in their opposition to multiple, mutually enforcing injustices."[55] Though Code suggests the subversive nature

[54] Senator Ernest Gruening, quoted in Eliza Griswold, "How 'Silent Spring' Ignited the Environmental Movement," *The New York Times*, September 23, 2012, https://www.nytimes.com/2012/09/23/magazine/how-silent-spring-ignited-the-environmental-movement.html.

[55] Code, *Ecological Thinking*, 14. These movements include "[c]ivil rights, antiracist, and women's movements; environmental, peace and antimilitarist movements; anti-imperialism, postcolonial, and radical challenges to intellectual-academic authority and the hegemony of Enlightenment rationality…" (14-15).

of Carson's work is sometimes implicit, nonetheless it was echoed and became more explicit in subsequent movements. It is emblematic of how knowledge is socially negotiated and instituted over time through ongoing advocacy. If the content and normative justifications of *Silent Spring* sound trivially true or obvious to you, it is a testament to how well Carson's ideas have become instituted in the social imaginary of our time.[56] *Silent Spring* opened an important debate that continues to this day in many (overlapping) forms. We have internalized the cautions regarding pesticide (over)use that Carson published in 1962. The precaution has become a norm by being instituted in laws, which is to say instituted in social structures, and now is re-produced across many disciplines and emancipatory movements. What may be less obvious is the way Carson's cautionary warning can also be applied to the central significations of control and mastery or domination: affecting not only how we view our relationships with nature, but also our relationships with knowledge and social imaginaries.

In *Ecological Thinking*, Code weaves together these two interconnected tendrils to show the problems that Carson identified as resistance to pesticide restriction/limitations (from businesses to governments to laypeople) are the same problems that resist reconfiguring the mastery and domination that influence knowledge-making practices. For Code, charting the multi-faceted events entangling Carson's instituting research and the subsequent social negotiations as it became instituted as knowledge is emblematic of

[56] To this day there are still detractors to Carson and *Silent Spring*; pesticide use is not a closed matter and there is ongoing negotiation about how and whether to limit it. See Code, "Thinking Ecologically: The Legacy of Rachel Carson," 130-32.

the kinds of things an ecological epistemology should include in its analyses of knowledge production. Going beyond the text itself, the events surrounding *Silent Spring* can be seen as an instance of how knowledge is made and negotiated. Significations that were highlighted in *Silent Spring* became instituted by being re-produced into laws and other social structures. The work can be read as research that is exemplary of a naturalistic ecological epistemology by virtue of its sensitivity and responsivity to local particularities, enhancing on the ground empirical analyses by clarifying with accessible language and tracing complementary analogies.

Ecological epistemology takes a perspective that makes responsibilities visible, exemplary in *Silent Spring,* which pays particular attention to the systems and politics which make knowledge possible. Though it is committed to being responsible to evidence, since it is a naturalistic epistemology, ecological epistemology insists that science and even evidence itself has political dimensions. The boundary drawn in QNE is an artificial and unsustainable boundary. Code's reading of Carson (with help from Castoriadis) makes clear that 'natural' facts are hardly ever so, the way QNE or the ensemblistic-identitary logic imagine them to be: they are instead constructed (and re-produced) social-natural facts. Ecological epistemology introduces a skepticism regarding what is purported to be 'natural', 'normal', or 'common sense'. Knowledge is based on our inquiring into, our carving into, (experience) reality, which depends on decisions about what is important for study and decisions about boundaries, 'natural' kinds, and categories. Agent inquiry influences the description, the methods, and the results of the inquiry: it reflects a narrative, an organizational conceptual framing, and

therefore there is necessarily a normative aspect of knowledge, even when we are purportedly trying to be merely descriptive. The process by which things are discriminated from other things and named is not merely a descriptive endeavor - it is a normative project. It involves judgment - it involves either (in a loose, non-binary sense) competition or cooperation with the significations our social imaginary by which the world is already organized. This is why our knowledge of the world changes over time. It changes because 'new facts' arise from contentious and contestable experiences, that are then filtered through our existing but fluid social imaginary in a negotiative process. The deliberations of these new facts makes space in the social imaginary for changes to our significations and their valuations. The import of our collective significations change, over time and often through struggle.

We can analyze *Silent Spring* through ecological epistemology and the epistemology of mastery by asking why Carson's research was met with hostility (or why she was viewed as lacking epistemic authority) if science is the paradigmatic institution for knowledge-making. Ecological epistemology would answer that incorporating knowers' epistemic locations in epistemic analyses is important. A multitude of values and attitudes towards both the implications of the research and Carson herself affected how the science was received. In short, the science has political dimensions. QNE and its epistemology of mastery is unable to account for epistemic location because of its separation of science and values. *Silent Spring* demonstrates why a reductive scientism is limiting what we collectively consider to be knowledge from the outset. Why, if all scientific inquiry counts towards knowledge, was Carson's ecological research so

challenged, so difficult for society to accept? Without taking into account social-political and historical specificity, QNE cannot answer this question. Conversely, ecological epistemology can map the social-political specificities of the social imaginary and epistemic locations of agents to deepen understanding.

Ecological epistemology proceeds by situating knowledge like that found in *Silent Spring* in its historicity and seeking to describe the assemblages of stakeholders who participate in its institution in society. This institution is done through negotiation and implementation of significations in social structures. *Silent Spring* challenged some of the central significations of the social imaginary, which explains much of the resistance to its becoming instituted knowledge. Along with the political climate of the 1960s USA and the influences of the epistemology of mastery, Code points to things like Carson's use of non-causal, accessible language that is understood by the general public as reasons for the mixed reception of Carson's research. This, for QNE, is not precise enough language for scientific inquiry and needs further translation. According to Quine, science is comprised of methods and techniques which continually purify (i.e., express in causal terms) our language and therefore our knowledge. So, science is paradigmatic of knowledge when it is expressed in the purest language. Carson's accessible narrative reduces her epistemic authority in the eyes of those who subscribe to the epistemology of mastery.

Conclusion: New Structures, New Significations

In this chapter, I have explained Code's ecological epistemology by justifying a skepticism toward QNE and then providing an example in Carson's *Silent Spring*. Code's

ecological epistemology can be thought of as the result of the social imaginary's instituting power that is sufficiently radical to question the dominant social imaginary with its central significations of the ensemblistic-identitary logic and the desire to control. Its central significations of epistemic location, co-constitutive relationality and local responsivity challenge the hegemony enjoyed by the epistemology of mastery. With the benefits of an ecological epistemology in mind, I am now in a position to build a case for an ecological analysis of a particular situated institution, the Ontario public education system. Such an analysis will help to highlight and unsettle instituted assumptions in our social imaginary. Certain assumptions, both implicit and explicit, shape (and limit) the children's sense of self, what they consider knowledge, what is taken to be worthy of inquiry, and the proper methods of those inquiries. Left unchecked, the social imaginary will manifest the central significations of the epistemology of mastery and continue to perpetuate its harmful effects. One effect is the occurrences of epistemic injustices, which we will explore in more detail in the following chapters. By moving towards ecological epistemology, we can mitigate some of these harms by becoming more aware of how the institution shapes significations of knowledge and the subjectivities of knowers that are subjected to it. Reflexive systems and agents will be able to think about themselves as part of a dynamic ecological community rather than as independent individual agents.

Since the central significations of the social imaginary can best be discerned through actual structures in a society, my project now will turn to the ways Ontario's public institution of education re-produces the epistemology of mastery, mapping the use of significations in policy documents where the ensemblistic-identitary logic and the desire

to control are influential. In adopting ecological epistemology as a framework, I hope to challenge the hegemonic status of the epistemology of mastery, showing that it is not the only way of knowing well. Ecological epistemology maintains that there is epistemic value to be found in doing local case studies and in analyzing particular ecosystems, a reflection of its commitment to local responsivity. By taking seriously the epistemic location of knowers, it becomes necessary to look at how actual institutions affect their actual constituents. In order to map the assemblages of those who make up the ecosystem that is the institution of public education I will need to chart it in its historical specificity. Taking into account epistemic location when moving into the realm of public policy shows even more clearly the ways the epistemology of mastery shapes institutions. Some of the commitments of QNE and the epistemology of mastery are re-produced in educational policy, both in explicit statements and in tacit assumptions. Many of the people who are involved in policymaking have been taught to value simplicity and sameness, so they may uncritically perpetuate significations that can cause harm to some people and groups. Re-instituting these significations ultimately constrains the way those who are subjected to this institution and its policies think about themselves and their relationship to others and the world.

Having motivated a successor epistemology, in the chapters that follow I will map and analyze a particular local social institution: the Ontario public education system. With the insights we have gleaned about the significations of the epistemology of mastery and the resistant significations of ecological epistemology, we are prepared to unsettle and make strange some of the 'common-sense' or 'obvious' assumptions made

possible by our dominant, instituted social imaginary, exposing how they are instituted and entrenched in actual institutions, in normative policies, practices, and everyday interactions. We shall also see how their hegemonic status in the institution limits genuine change that would be possible by instituting ecological significations.

Chapter Two: The Ecosystem of Ontario's Public Education System

I. Introduction
II. The History of Public Education in Ontario
III. The Ecosystem at Present – Ontario's Ministry of Education and its Relationships
IV. Policies from the Ministry of Education
  a. Enhancing Public Confidence
  b. Achieving Excellence and Promoting Well-being
  c. Ensuring Equity
V. Conclusion

Introduction

It is my contention that we ought to understand Ontario's public education system as a complex ecology or an ecosystem. The ecosystem of the institution of education is instantiated by central significations from both instituted and instituting imaginaries, to follow Castoriadis's terminology.[1] The instituted imaginary reflects a society's reification of certain significations as the established order of things, while the instituting imaginary captures the critical-creative powers of a society to create and implement new significations and meanings. By identifying the many relationships between parties, it becomes easier to map how and where instituted power is used to justify and further entrench problematic central significations, specifically those significations that uphold the epistemology of mastery. The central significations of an epistemology of mastery, as discussed in Chapter One, are pseudo-rational significations. That is, they are taken uncritically to reflect reality, taken as natural significations that are necessary outcomes

[1] Cornelius Castoriadis, *The Imaginary Institution of Society* (Cambridge, MA: MIT Press, 1987). See also Angelos Mouzakitis, "Social Historical," in *Cornelius Castoriadis: Key Concepts* (New York: Bloomsbury 2014).

of a rational world, rather than recognized as imaginary. These central significations include an ensemblistic-identitary logic and the desire or predilection to control.[2] As I describe the institution of public education in Ontario, I will indicate instances of these significations and their detrimental effects. Critiques of the significations of the epistemology of mastery are impeded by an entrenched social imaginary that forecloses possibilities for radical change. Their persistence within the dominant, operative instituted imaginary has limited the instantiation or institution of ecological epistemology's significations of epistemic location, co-constitutive relationality, and local responsivity within Ontario's institution of public education.

The chapter will proceed in three steps: first, I will give an historical account of Ontario's public education system; second, I will describe the current relationships within the institution as ecosystem; and third, I will analyze a few key pieces of policy that govern and guide the institution. The historical survey will help to identify key parts of the institution's ecosystem for which we can then map changes in relationships over time. Charting the dynamic nature of these relationships will help to highlight certain significations that have been used in the past or that are in continued use, especially in published texts like policies. Further, a multifaceted charting will allow us to see just how the critical-creative instituting imaginary has influenced the institution. In the policy analysis, I aim to identify instances where the instituting power of the imaginary

[2] The ensemblistic-identitary logic is the logic of determination; it reduces being to that which is determined, or determinable. It conceives of objects and agencies in the world as separate, having distinct boundaries which reflect natural kinds. The desire to control involves control of self, environment, and others, each seen as distinct units that exist independently first and then connect or relate to each other.

challenges the instituted system, as well as highlight ways that the operative instituted imaginary has been able to co-opt new significations by incorporating these critiques into the logic of the instituted imaginary. When the operative social imaginary assimilates new significations into its structure, it undergirds an epistemological monoculture, a result of the reductive scientism that is characteristic of the ensemblistic-identitary logic which regulates what is considered meaningful and what can be formally instituted in our society.[3] For ecological epistemology to destabilize the epistemology of mastery and unsettle its hegemonic status, the revisionary conceptual frames need to be practically-materially efficacious, changing practices and relationships materially as well as conceptually. While I hope to flag certain (instituted) significations that are problematic, what follows is an attempt at a balanced description of the ecosystem that is Ontario's institution of public education, giving credit where due.

The History of Public Education in Ontario

Formal schooling in Ontario has a long and storied past, some of which is wonderfully innovative, and some of which is downright shameful and has recently been deemed genocide.[4] Our history goes back more than a half-century before Canada's

[3] Lorraine Code, *Ecological Thinking: The Politics of Epistemic Location* (Oxford: Oxford University Press, 2006), 8. In Chapter One I discussed a critique of the reductive scientism of Quinean Naturalized Epistemology as an exemplar of the epistemology of mastery.

[4] Richard Raycraft, "MPs Back Motion Calling on Government to Recognize Residential School Programs as Genocide," CBC News, last modified October 28, 2022, https://www.cbc.ca/news/politics/house-motion-recognize-genocide-1.6632450. Canadian Members of Parliament voted unanimously in favor of the motion introduced by NDP MP Leah Gazan. Of course, other forms of schooling, not mandated or funded by the government have existed in the place which eventually became Ontario for much longer, including Indigenous forms of education like "demonstration, group socialization, participation in cultural

confederation, when the land that would come to be known as the Province of Ontario was called Upper Canada by the British colonizers. Grammar schools were established in 1807, but they were not accessible to the vast majority of the population. The lessons taught were also unsuitable to the conditions and needs of the people and the province. The public money used to fund these grammar schools ended up benefiting and supporting only the wealthiest inhabitants, rather than those in the lower and middle classes. In 1816, Upper Canada legislated the first education act, called the *Common School Act*, which was the first legislation in a series that established common schools in the province. The province was divided into 10 sections, each having its own school board, which became responsible for courses of study, textbooks, and all school rules.

In February 1841, under the *Act of Union*, Upper Canada (with a population of over 400,000) united with Lower Canada to form the new Province of Canada. Upper Canada was then considered Canada West until Confederation on July 1, 1867, when the Province of Ontario was founded. In September of 1841, the Province of Canada legislated a new Act for the establishment and maintenance of public schools in Canada.[5]

One decade later, in 1850, the Department of Public Instruction was formed, led by Reverend Egerton Ryerson as the chief superintendent of education. In 1876, this department was superseded by the Department of Education. The Minister of Education was concurrently established along with this new department. The newly formed

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and spiritual rituals, skill development and oral teachings." See Harvey A. McCue, "Education of Indigenous Peoples in Canada," *The Canadian Encyclopedia,* Historica Canada. Last edited July 18, 2018.

[5] "Timeline: Education," *The Canadian Encyclopedia*, accessed November 25, 2021, https://www.thecanadianencyclopedia.ca/en/timeline/education

Department of Education was responsible for elementary and secondary schooling as well as post-secondary schooling, until the Department of University Affairs was created in 1964. In 1972, the Department of Education was renamed the Ministry of Education, the name it holds to this day.

It is important to note that while formal public education has existed in Canada for over 200 years, it was not accessible to all populations equally. Canada's Indigenous populations have a particularly fraught history with institutions of education in Canada, one that amounts to (ongoing, intergenerational) cultural genocide. First Nations, Métis and Inuit children were forced to attend residential schools, away from their families and support systems. The residential school program existed since the *Indian Act* in 1876, though it wasn't until an amendment in 1894 that made attendance mandatory for First Nations children. The residential school system separated at least 150,000 Indigenous children from their families. The last residential school in Canada closed in 1997, corresponding to over a century's legacy of genocide staining the institution of education. In Ontario, there were roughly 15 residential schools. Most of these residential schools were run by churches and funded by the federal government. It is integral for us to understand that "residential schools were government-sponsored religious schools that were established to assimilate Indigenous children into Euro-Canadian culture."[6]

[6] J.R. Miller, "Residential Schools in Canada," *The Canadian Encyclopedia*, updated by Tabitha De Bruin, David Gallant, and Michelle Filice, last modified June 1, 2021, https://www.thecanadianencyclopedia.ca/en/article/residential-schools

Since Canada was founded as a British colony, and because England has a constitutionally established state religion, Canada for much of its history had little separation between church and state. Nowadays, Canada is not constitutionally recognized as a secular state, but "…the courts have gradually inferred such principles from freedom of religion and the prohibition against religious discrimination."[7] In 2001, the census revealed that 7/10 citizens self-identified as either Roman Catholic or Protestant.[8] In the history of Canada's education system, many schools (both residential schools and common schools) were run and taught by the church, even as they were funded by the government (this is a precursor to the fact that Ontario's public education system currently funds four systems, two of which are Catholic systems). The institution's governing body, the Ministry of Education (MOE) currently oversees 4 separate school board systems: English Public (31 school boards), English Catholic (29), French Public (4), and French Catholic (8).

The Ecosystem at Present – Ontario's Ministry of Education and its Relationships

While the Department of Education became the Ministry of Education in 1972, the MOE of Ontario was formally established in its current form in 1999. It is a provincial governmental institution that is now responsible for childcare and public schooling at both elementary and secondary levels. As such, it is an institution that plays an extended

[7] Rosalie Jukier and Jose Woehrling, "Religion and the Secular State in Canada," servicio publicaciones facultad derecho Universidad Complutense Madrid (2015): 159. <https://ssrn.com/abstract=2620424>
[8] Jukier and Woehrling, "Religion and the Secular State in Canada," 155.

formative role in the students' lives and the knowledge and skills gained through socialization and the norms they internalize. The MOE has many roles to play in the (eco)system and describing its various relationships to other constituents will help us begin to disentangle the complexity of the ecosystem.

The MOE has a fiduciary relation to the provincial and federal governments, given that the government funds public education in a variety of forms. The Ministry is tasked with the responsible allocation and distribution of funds to meet the needs of Ontario's students. The 2019-20 government total allocated for education, excluding capital, was estimated at $24.8 billion. The 2019-20 government total capital investment was estimated at $1.7 billion.[9] The former is the annual operational cost, and the latter reflects the continuous addition of new schools and instructional spaces needed to serve its growing population and renovations and upkeep of existing infrastructure. It would be remiss, however, to think that the infrastructure of the MOE and its boards consists simply of the institution's buildings. The ecosystem of the institution is constituted by those who inhabit it and are influenced by it.

Beyond fiduciary responsibilities, the MOE also has a regulatory role to develop and provide guidelines, policy, curriculum, and teaching resources for all K-12 public education in the province. Further than this, it also sets "provincial standards and guidelines for all assessment, evaluation and reporting for all students who attend public

[9] Government of Ontario, Ministry of Education, "Education Facts, 2019-2020 (Preliminary)," accessed November 25, 2021, http://edu.gov.on.ca/eng/educationFacts.html, archived December 23, 2021 at https://web.archive.org/web/20211223183914/edu.gov.on.ca/eng/educationFacts.html

or private schools in Ontario."[10] These guidelines, policies, curricula, and resources are all potential sites for entrenched (pseudo-rational) significations to become reified, justified in the operative instituted imaginary. They are also sites where we may see the powers of the instituting imaginary at work, and the resulting interplay between the two powers of the imaginary. It is important to parse these documents, since, following Sara Ahmed, "…an *explicit* attention to institutions teaches us about their *implicit* significance and meaning."[11] Looking at their explicitly stated goals, values, and priorities can help us begin to focus our attention on the complex ecology of the institution's ecosystem. However, we will also have to proceed cautiously and attempt to read between the lines, since institutionalization is also about "…what institutions 'tend to do,' *whatever it is they say they are doing or should be doing.*"[12]

The MOE currently oversees 4 separate school board systems: English Public (31 school boards), English Catholic (29), French Public (4), and French Catholic (8). In 2019-2020, there were 3,967 elementary and 877 secondary schools in Ontario.[13] These are physical spaces where instituted and instituting powers can be identified. They are curated sites of learning, political sites which are created and managed by people (and institutions) who have specific goals and specific outcomes in mind for the learners for

[10] Government of Ontario, "Ministry of Education," last modified April 28, 2021, Ontario.ca/page/ministry-education.
[11] Sara Ahmed, *On Being Included: Racism and Diversity in Institutional Life* (Durham: Duke University Press, 2012), 22. Emphasis in original.
[12] Ahmed, *On Being Included,* 24-25. Emphasis in original.
[13] Government of Ontario, Ministry of Education, "Education Facts, 2019-2020 (Preliminary)," accessed November 25, 2021, http://edu.gov.on.ca/eng/educationFacts.html, archived December 23, 2021, at https://web.archive.org/web/20211223183914/edu.gov.on.ca/eng/educationFacts.html

which they are constructed.[14] In those school board systems, there are over 126,000 full time equivalent (FTE) teachers, 7450 FTE administrators, and 10,000 FTE early childhood educators (ECEs) – these workers are subjected to laws administered by the MOE and must work according to curriculum and policy which the MOE developed. There are also tens of thousands of education workers, including custodians and educational assistants who make up the broader school community: though they are not teachers, they nevertheless play a crucial role in the maintenance of the institution's physical spaces and thus in the institution's success.

The MOE has relationships with the law (it administers 19 Acts and Laws), several independent agencies (e.g., Languages of Instruction Commission of Ontario, Education Quality and Accountability Office, TVO/TFO), and currently employs over 1900 people as administrators. At the time of writing, Stephen Lecce has served as the Minister of Education since his appointment by the Progressive Conservative Party of Ontario in 2019.

There are over 2 million students in Ontario (1.4m in K-8, 630,000 in 9-12) – these students are subjected to the guidelines, policies, and curriculum that the MOE develops. They learn within the physical spaces commissioned, funded, and run by the MOE. These numbers exclude private schools, publicly funded hospital and provincial schools, Education and Community Partnership Program (ECPP) facilities, summer,

[14] David Stroupe, "Naming and Disrupting Epistemic Injustice Across Curated Sites of Learning," *Journal of the Learning Sciences* 31, no. 2, (2021), https://doi.org/10.1080/10508406.2021.1977647.

night and adult continuing education schools with whom the MOE also has relationships.[15]

The families of the students represent another complex node of the institution's network. This is explicitly recognized in several policy documents by referencing the role of parents and guardians, who themselves have certain responsibilities (such as returning forms, signing and commenting on report cards, etc.). One stated goal of the MOE is to continually increase public satisfaction, and the families of the children attending school are the primary appraisers of this goal's success.[16] This list is indicative of the interrelationships of a diverse set of stakeholders in the ecosystem – there are many moving parts to the institution of education beyond the usually imagined teacher-student relationship found in the classroom.

Policies from the Ministry of Education

The MOE is responsible for the creation and ongoing development of provincially regulatory policy and curriculum. They produce documents which contain the MOE's explicitly stated intentions for students, educators, and the system itself, accompanied by justifications and plans of action. Highlighting provincial and local best practices, the documents are meant to serve as guides for school boards and teachers. In creating and

[15] For a full list of facts and figures available for Ontario's public funded education system, see Government of Ontario, Ministry of Education, "Education Facts, 2019-2020 (Preliminary)," accessed November 25, 2021, http://edu.gov.on.ca/eng/educationFacts.html, archived December 23, 2021 at https://web.archive.org/web/20211223183914/edu.gov.on.ca/eng/educationFacts.html

[16] I will discuss this goal in detail in the following section.

publishing these documents, the MOE reifies their intentions and ties them to concrete plans of action, which serves to stabilize the institution. The rhetorical discourse in documents such as *Achieving Excellence* and *Growing Success* is often presented simply; it is clear and uses plain language. Yet, in a close reading of the documents, one can find instances of both instituted and instituting power and complicated tensions from their interplay. The instituted powers of the operative social imaginary utilized by the MOE reinforce the pseudo-rational significations that justify and support the epistemology of mastery. The two significations are the significations of ensemblistic-identitary logic and the need for control.[17] These are particularly visible in rhetoric about success and progress, including instances where the MOE proposes how to measure the progress of goals set in the policy documents (in other words, how to measure success). As we move through the documents, attention will be drawn to metaphoric language and symbolism about success and progress that reflect the significations of the epistemology of mastery.

Once we have looked at these documents in further detail, revealing their internal logic(s), we will be able to see the ways that policy and curriculum shape the interactions, choices, opportunities, and formation of relationships of other constituents in the ecosystem. The institution seems to be in a period of transition, thanks to ongoing consultations with diverse groups which challenge and resist the instituted order of things; these consultations have promoted the implementation of new significations and new ways of organizing, including the significations of ecological epistemology

[17] These two significations are explained in more detail in Chapter One. See footnote 2 in this chapter for a brief definition.

(epistemic location, co-constitutive relationality, and local responsivity). We can think of these recommendations as instances of the critical-creative instituting power of the social imaginary. However, we must be careful not to reinstate the epistemology of mastery when making institutional changes, which is an ongoing possibility given the seemingly ubiquitous nature of its central significations. The effects of these documents are far reaching: notably, they shape classroom dynamics, including the physical learning spaces, and teacher-student and peer-peer relations. The students who are educated within the system have their agency shaped in particular ways because of the policies of the MOE. So long as the regulatory documents reify the epistemology of mastery, there will be negative effects to agency and relationships. These effects will be explored in more detail in the following chapter: here, we will limit discussion to the interplay of instituted and instituting significations.

The following section will focus primarily on the document *Achieving Excellence*: *A Renewed Vision for Education in Ontario* (2014, hereafter *AE*), though the themes here can also be formed in other documents – both older (*Growing Success* in 2010) and more recent (*Education Equity Action Plan* in 2017). *AE* begins with a mission statement: "Ontario is committed to the success and well-being of every student and child. Learners in the province's education system will develop the knowledge, skills and characteristics that will lead them to become personally successful, economically productive, and actively engaged citizens."[18] Here we find the explicitly intended outcomes for those that

[18] Government of Ontario, *Achieving Excellence: A Renewed Vision for Education in Ontario* (PDF, Queen's Printer for Ontario, 2014), 1.

are subjected to the system. The outcomes concern the knowledge, skills and characteristics that are to be developed by students, though no specificities are introduced yet. By making use of the knowledge, skills, and characteristics they have developed, which inevitably includes predispositions, habits and attitudes, students will achieve three main goals: they will become personally successful, economically productive, and actively engaged citizens. Here we find an admission that there is an affective component to learning, both from what is being explicitly taught and from being implicitly socialized into a particular culture or way of life.[19] If the ordering of the consequences has any bearing (and the documents repeat these desired outcomes in the same order in multiple places) then economic productivity is valued more highly than development of a capacity for political engagement. The latter two outcomes refer to the students' eventual place in society, while the first redescribes achievement as a kind of personal success. Of the three, personal success is the outcome with the most elaboration and justification.

While the mission statement sets out how students relate to the system, it also outlines how teachers and administrators are involved. The ministry plans to achieve these outcomes by cultivating and continuously developing "…a high quality teaching profession and strong leadership at all levels of the system."[20] It also says something of the system itself- that it will be "… responsive, high-quality, accessible, and integrated from early learning and childcare to adult education."[21] The MOE's explicit goals are

[19] Raymond Williams, "Traditions, institutions and Formations" in *Marxism and Literature* (Oxford: Oxford University Press, 1977), 117.
[20] Ontario, *Achieving Excellence*, 1.
[21] Ontario, *Achieving Excellence*, 1.

meant to direct those who access and utilize the system as well as those whose role is to sustain and stabilize the system's quotidian functions. It also sets a desired standard for the system itself (though it will be human [inter]action that determines whether those goals are worked on and ultimately met).

In its introductory remarks, *AE* evinces the institution's commitments to the ensemblistic-identitary logic. It introduces statistics about students and provides justifications for both collecting data to generate statistics and for provincial standards in testing and assessment. To generate such statistics, the MOE needs to be able to quantify not only students but student achievement. *AE* includes in its introductory remarks a section titled "Our Success in Education – Now and in the Future" wherein provincial standards in literacy and numeracy are introduced.[22] At the turn of the 21st century, only 54% of students met provincial standards, and only 68% graduated secondary school. *AE* considers it a remarkable success that within a decade (by 2013) 68% of students met provincial standards and 83% graduated secondary school. This improvement is credited to improvements made in the education system and the educational reforms implemented in that decade. This section also introduces 'performance gaps' between groups of students, which are said to be narrowing or closing entirely.[23] Examples provided are students in ESL programs compared to the general student population, the achievement gap between boys and girls (that boys achieve less consistently than girls), and the gap between elementary students with special education needs and elementary students

[22] Ontario, *Achieving Excellence*, 2.
[23] Ontario, *Achieving Excellence*, 2-4.

generally. Groups they mention as still struggling include "…Aboriginal students, youth in care (e.g., children in the custody of Children's Aid Societies) and students with special education needs."[24] The introduction of performance gaps without reference to how or why these gaps exist is problematic because it presents an atemporal, ahistorical snapshot of society which evades responsibility for past wrongs done to members of the identified groups. Overwhelmingly, performance gaps exist as a direct consequence of marginalization. In the case of Indigenous students, the performance gaps exist as a direct consequence of genocide and the resultant intergenerational traumas it has caused. To identify this performance gap as equally concerning to the gap between boys and girls (where a more finetuned and intersectional analysis might indeed find that it is particular boys which are performing worse rather than all boys being equally disadvantaged) is doing an injustice to the historical legacy of Ontario's institution of education and its treatment of Indigenous students. It is with the quantitative evidence of performance gaps between groups of students that the MOE justifies continued data acquisition and serves to justify standardized testing which is currently delivered by EQAO – Ontario's Education Quality and Accountability Office.

Earlier I mentioned the EQAO as an independent agency with which the MOE has a relationship. This is a bit of an understatement of the EQAO's role in Ontario's institution of education. It is an 'arm's length' government agency which has developed and delivered standardized math and literacy tests since 1996.[25] Currently, tests are

[24] Ontario, *Achieving Excellence*, 2.
[25] Education Quality and Accountability Office, "About EQAO," web, King's Printer for Ontario, 2022, https://www.eqao.com/about-eqao/

administered to students in grades 3, 6, 9 and 10. The agency's website claims that it is an evidence-based research-informed organization, though we might question whether the evidence and research is informed by the significations of ecological epistemology or the epistemology of mastery. When students are assessed through standardized testing, EQAO claims that "personalized reports help support individual student learning."[26] It is also claimed that the aggregate results of testing helps school boards to better gauge teacher effectiveness, thereby allowing schools and teachers to better administer curriculum. Critics of the EQAO question the value of quantitative rather than qualitative feedback for individual learners.[27] When considering the EQAO in light of the underlying epistemology of mastery, we can see how the claims of accountability are substantiated with significations of the ensemblistic-identitary logic, with inequalities being reduced to performance gaps which are measurable and actionable. This justifies continued surveillance that is quantified, and thought to be a rational practice, but in fact relies on pseudo-rational imaginary significations.

AE organizes around four key goals for the future of education in Ontario: (i) achieving excellence; (ii) ensuring equity; (iii) promoting well-being; and (iv) enhancing public confidence. Each of these goals has aspects of ecological thinking, verifying the power of the instituting imaginary to inform educational policy. This is thanks primarily

[26] Education Quality and Accountability Office, "About EQAO, web, King's Printer for Ontario, 2022, https://www.eqao.com/about-eqao/

[27] Ardavan Eizadirad, "Legitimization and Normalization of EQAO Standardized Testing as an Accountability Tool in Ontario: Rise of Quantifiable Outcome-Based Education and Inequitable Educational Practices," *OISE GSRC Journal* 1, no. 1 (2018), 6-18. For a book length critique of the EQAO, see Eizadirad, *Decolonizing Educational Assessment: Ontario Elementary Students and the EQAO* (Cham: Springer International Publishing, 2019).

to consultations with groups that are critical of the instituted order of things. Given the ministry's stated commitment to evidence-based research and consultation, it is not surprising that there are instances of new significations stemming from the critical-creative instituting power of the social imaginary found in policies. [28] Some of these significations include a responsive and responsible local sensitivity and a recognition of relational co-constitution.[29] However, there is a tension between these new significations and the epistemology of mastery in the operative social imaginary, which is resilient and can co-opt that which is meant to displace it. The tension stems primarily from how the MOE's goals are meant to be implemented, and how progress is measured. The epistemology of mastery substantiates ideas of implementation of the goals and desired outcomes the MOE has set, hindering the changes that could come about and need to come about if we are to mitigate negative effects on knowledge and agency. In the remainder of the chapter, I will discuss three examples where the instituting power of the social imaginary has impacted Ontario's education policy and curriculum. In each example, I will explain the ecological implications and new significations. Then I will show how the proposed ecological changes will remain impotent until the underlying values and significations of the epistemology of mastery have been exposed. It is necessary to highlight the tensions between the instituting and instituted powers of the social imaginary to see how this tension affects the institution and the agency of the institution's constituents.

[28] Ontario, *Achieving Excellence*, 3. See also pages 17 and 19 for a restatement of this commitment.
[29] Code, *Ecological Thinking*, 4.

a. Enhancing Public Confidence

The first example of the influence of ecological epistemology in *AE* can be found in the last goal, (iv) enhancing public confidence. In this goal there is explicit acknowledgment of the institution's ecosystem extending beyond the oft-thought classroom dynamics between teacher(s) and student(s). [30] In addition, and bearing on this relationship in various ways, there are also interdependent relationships involving administration, custodians and care staff, additional teachers and educators (ECEs, EAs), librarians, and parents and guardians. Further, the institution as a whole has a place in the public realm and therefore also has relations with the broader public. There are several ways to frame this goal. One framing is ecological, while another sees the desire to enhance public confidence is in part reflective of the MOE's fiduciary responsibility to the province: the government of Ontario funds public schools through the MOE, and so the MOE is fiduciarily obliged to show that those funds are being used appropriately. Goal (iv) in *AE* states the intention to enhance public confidence, primarily by making the institution more inclusive to those who have close associations to it – parents and guardians are of particular importance. Families, particularly those parents and guardians, are said to have elevated expectations of the system, given that approximately 95% of Ontario children attend a publicly funded school, spending hours there five days a week (ultimately in a schedule that is similar in structure to the 40-hour work week – a rather pessimistic framing could claim that schools are in essence day care so that capitalism

[30] The term 'ecosystem' is not explicitly used in the document, though I contend the complex system described by the policy can be accurately captured using this terminology.

can continue to function).[31] The public also has high expectations of the leaders and educators who make the system run. These teachers are tasked with teaching skills, facts, and habits, and socializing students in such a way as to make them "personally successful, economically productive and actively engaged citizens."[32] This goal is premised on meeting (and exceeding) those high expectations.

When explaining the rationale for the goal of enhancing public confidence, *AE* again highlights improvements in graduation rates and EQAO assessments (standardized testing). These are cited as reasons why public confidence has increased in the past decade, and the fourth goal is "… to ensure that this confidence is not only maintained but enhanced."[33] Several keywords are provided that describe an education system able to inspire public confidence and contribute to positive student outcomes: sustainable, responsible, accountable, and transparent. These significations could be interpreted using the logic of the dominant, operative social imaginary and its epistemology of mastery or they could be interpreted using the logic of ecological epistemology. It is *prima facie* too ambiguous to determine by the policy document alone which epistemic system substantiates the rhetoric. The document specifies that continuing an evidence-based allocation and distribution of resources, demanding ongoing processional education for

[31] Of course, there are a spectrum of possible framings between the most optimistic and the most pessimistic. There are likely good reasons why parents and guardians would welcome full-day school for their children, for example for the chance to pursue values or life goals other than childrearing.
[32] Ontario, *Achieving Excellence*, 1.
[33] Ontario, *Achieving Excellence*, 17.

educators and introducing new ways for parents to engage in their child's learning as three key elements to achieving the goal of enhancing public confidence.

The plan of action for goal (iv) enhancing public confidence is complex. There are points about student learning, about professional learning and programs for educators, partnering with community organizations and businesses, fostering parent engagement, about the schools' physical infrastructures, and maintaining positive learning environments, and finally (and perhaps most importantly for our analysis) to "broaden the measures of success and the use of perceptual and demographic data (e.g. perceptual surveys) so that program and service enhancements address the specific needs of students who continue to struggle."[34] While these actionable items may be understood ecologically, when analyzed critically we see that they are substantiated by the epistemology of mastery, especially in the ways they are implemented. For these actionable items, there are only three ways Ontario states it will assess progress: first, it will "continue to monitor the percentage of children who attend a publicly funded school." It will "determine how many students across Ontario take advantage of increased experiential learning opportunities through cooperative education with community organizations and businesses." Finally, it will "work with boards to measure public perception through regular surveys and focus groups."[35] The reliance on measurement and data collection is a function of the pseudo-rational signification of ensemblistic-identitary logic, reinforcing the idea that everything can be differentiated

[34] Ontario, *Achieving Excellence*, 19.
[35] Ontario, *Achieving Excellence*,19.

into separable units and measured. It also reinforces the need for control, as it maintains that institutional success is reliant upon factors which are measurable, ultimately because that which can be measured can be more easily influenced and controlled. This desire to control extends beyond the narrow sense that control allows the institution to achieve its immediate goals. The signification sustains the value and desirability of control more broadly, reinstituting and reinforcing the value and desirability of being able to predict, manipulate and control the behavior of institutions, complex systems, the material world, and other people.

b. Achieving Excellence and Promoting Well-being

The second example to show the tensions between the instituting and instituted powers in the public education system is found in the interplay between goals (i) achieving excellence, and (iii) promoting well-being in *AE*. While each goal provides guidance for the students, teachers and leaders, and the system itself, the tensions are most starkly observed when considering the implications of these goals on those subjected to the system. Therefore, we shall focus on the learners or students. What philosophical doctrines underlie the goal of achieving excellence and how well do they combine with the promotion of (individual) well-being?

The first goal is primarily concerned with academic excellence and the distribution of equal opportunity that schools ought to provide students, stating “We must give our learners the tools they need to reach their full potential, regardless of their

individual circumstances."[36] The language in this section emphasizes tools and skills that children, as learners and students in the institution, will develop thanks to raised expectations from the Ontario education system. But it also reiterates the importance of economic productivity, indicating their goal to have students "… fully engaged in their learning, building the skills and developing the attributes they will need to compete for and create the jobs of tomorrow."[37] The exact skills and attributes that are needed or desirable in the ministry's eyes are not stated here. One thing that is stated as a direct contribution to success (personal or economic is not specified, though I imagine it is both) is "the opportunity to benefit from the effective and appropriate use of technology in the classroom."[38] The world around the students is characterized as one that is always changing, but by achieving excellence, "…Ontario students will be better prepared to adapt, achieve and excel, regardless of the challenges they face."[39]

In the section entitled "Why We Need to Do This" we finally see some concretized instantiations of the skills and attributes the system expects to develop in its constituents. The goal is to primarily increase achievement in the 'foundational skills' of reading, writing and mathematics, an indication that the institution associates excellence with academic achievement. The imperative is to combine these foundational skills with "creativity and critical thinking, innovative problem solving, effective communication and collaboration."[40] This section also introduces for the first time some attributes of the

[36] Ontario, *Achieving Excellence*, 4.
[37] Ontario, *Achieving Excellence*, 4.
[38] Ontario, *Achieving Excellence*, 4.
[39] Ontario, *Achieving Excellence*, 4.
[40] Ontario, *Achieving Excellence*, 5.

characters of the students (most often children) who are subjected to the system: the characteristics needed are perseverance, resilience, and imaginative thinking. These characteristics on their own are multiply realizable; they could be interpreted ecologically or with the significations of the epistemology of mastery. These characteristics are mentioned as necessary for students specifically to overcome challenges they will come to face. No particular challenges are noted, but likely refer back to issues of competitiveness, global interconnectedness, and changing technologies.[41] The three characteristics are to be combined with compassion and empathy for others, since that is how "…our learners will develop the skills and knowledge they need to become actively engaged citizens."[42] The policy acknowledges that care, in the form of empathy and compassion, is necessary to participate and negotiate in civic matters with others. These concessions to complexity of personhood and how environments and interactions shape agency can be conceived ecologically. However, the challenges posed to the instituted social imaginary are limited by details of the imagined futures of students – that they

[41] Resilience has been noted as a neoliberal dogwhistle, one that reinforces individual responsibility and a denial of embodied situatedness insofar as it calls for mastery over oneself no matter the situation – a calling for individual adaptability. An ecological interpretation, by contrast, sees situation as constitutive of enactments of subjectivity. (Code 2007 19). See Jonathan Joseph, "Resilience as Embedded Neoliberalism: A Governmentality Approach," *Resilience (Abingdon, U.K.)* 1, no.1 (2013), 38-52 and Clemence Humbert and Jonathan Joseph "Introduction: The Politics of Resilience: Problematising Current Approaches," in *Resilience: International Policies, Practices and Discourses* 7, no. 3, (2019): 215-23. The introduction is especially helpful in laying out the conceptual terrain of 'resilience.' The problem with 'resilience' instantiated by the epistemology of mastery is not about merely developing emotional fortitude, it is that emotional fortitude as the end goal precludes any collective action or changing of (oppressive) systems, and instead asks students to adapt and overcome the challenges they face individually.

[42] Ontario, *Achieving Excellence*, 5.

need to develop skills primarily for economic productivity, and that academic excellence best serves this end.

The third goal, promoting well-being, explicitly accepts a holistic conception of the child (learner), recognizing that academic excellence (the main component of goal [i]) is not the only outcome that matters for students in the institution. This goal explicitly broadens the first goal beyond "…the child's academic achievement [to] his or her emotional, social and physical well-being."[43] The third goal is tied to developing "strong relationships and a positive sense of self."[44] It makes explicit reference to the support children get from both relationships with others and through their environment, further strengthening the ecological sentiments behind the policy. Safe relationships help to foster a safe learning environment, and vice versa. Safe and welcoming environments are a necessary component of promoting a learner's well-being, and environments only become safe and welcoming through "…the knowledge, wisdom, and willingness of students, parents and guardians, community organizations, service providers, government ministries and others to create an environment that is healthy, safe and caring."[45] So long as the policy does not expand on the complexities of rhetoric regarding what counts as healthy, safe, or caring, it remains ambiguous and can thus be interpreted (instantiated) ecologically or using the values of the epistemology of mastery. The justification for this goal is to "…equip our children and students with the skills they need to seize

[43] Ontario, *Achieving Excellence*, 14.
[44] Ontario, *Achieving Excellence*, 14.
[45] Ontario, *Achieving Excellence*, 14.

opportunities and overcome obstacles."[46] In effect, the goal is to 'level the playing field', so to speak, by providing a safe and welcoming (and equal or equal opportunity) environment. One implication of such a description is that it suggests responsibility is primarily on the individual learners instead of the system, so that students become responsible when the skills cultivated are not enough to enable them to 'seize opportunities or overcome obstacles.' The ultimate goal is independence, even as the documents recognize that interdependence is necessary. This focus on individual responsibility is an effect of the pseudo-rational need for control, a feature of the epistemology of mastery. The individualist rhetoric emphasizes self-reliance and resilience, positing the individual as ontologically separate from his environment and others, as something to be mastered internally so as to increase control externally. The world is available for (epistemic) conquering as he masters his surroundings and gains skills to adapt and overcome obstacles, becoming self-reliant in knowledge and action. When one controls oneself, one can control the environment and others. This is anti-ecological in that it does not recognize embodied situatedness, that is, that situation and place (and relations with others) are constitutive of, not secondary to, a sense of self.

The third goal reconceptualizes the autonomy of children as well-being, which could be compatible with relational autonomy. Relational autonomy as developed by feminist scholars captures a range of theories that adhere to the conviction that "persons are socially embedded and that agents' identities are formed within the context of social relationships and shaped by a complex of intersecting social determinants, such as race,

[46] Ontario, *Achieving Excellence*, 14.

class, gender, and ethnicity".[47] It is meant to challenge classical accounts of individual autonomy which are charged with being "fundamentally individualistic and rationalistic"[48] due to being unduly focused on self-determination and self-governance at the expense of recognizing embodied situatedness. Still, feminists working on relational autonomy hope to salvage the concept of autonomy by refiguring it, claiming that it is relevant to understand power dynamics and oppressive structures, as well as possibilities of liberation.

To understand a child's autonomy as a component of their well-being is to redescribe success as contingent on "not only the child's academic achievement but also his or her cognitive, emotional, social and physical well-being."[49] It is primarily focused on the individual, but there is some recognition of social connections. Consider the opening line of this goal in *AE:* "Children and students who have strong relationships and a positive sense of self – and who can understand and manage their own health and emotions – are in a better position to reach their full potential in the future."[50] This reiterates the desire to control, stating that students need to 'manage their own health and emotions,' but leaving this directive open to interpretation. Philosophies of well-being attempt to answer fundamental questions about one's self and one's role in society. If

[47] Catriona Mackenzie and Natalie Stoljar, "Introduction: Autonomy Refigured," in *Relational Autonomy: Feminist Perspectives on Autonomy, Agency, and the Social Self,* eds. Catriona Mackenzie and Natalie Stoljar (Oxford: Oxford University Press, 2000), 4.
[48] Catriona Mackenzie and Natalie Stoljar, "Introduction: Autonomy Refigured," in *Relational Autonomy: Feminist Perspectives on Autonomy, Agency, and the Social Self,* eds. Catriona Mackenzie and Natalie Stoljar (Oxford: Oxford University Press, 2000), 3.
[49] Ontario, *Achieving Excellence*, 14.
[50] Ontario, *Achieving Excellence*, 14.

well-being is interpreted as 'becoming self-sufficient' then this reinforces the need for control, both in the form of self-mastery and mastery over the environment and others. If well-being is interpreted ecologically, in accordance with the relational autonomy of feminist models, it would have the necessary implication of being a communal pursuit.[51] In the policy, the ecological significations are partially addressed through the recognition that there is a need to provide safe, healthy schools (physical buildings in which students come to learn) in order for students to thrive, to live well. This is because a person's situation is constitutive of self, not secondary to self.

Even if we recharacterize autonomy as well-being, the policy may still reinforce the need for control. One must control their emotions and actions to become masters of themselves. Autonomy is mentioned in several support documents, though not in *AE* directly. Autonomy is also reinforced in the 2010 *Growing Success* document, which redescribes teachers' role in education and sets the standards for assessments and evaluations. One example that shows the tension between traditional conceptions of autonomy and relational autonomy recharacterized as well-being is found in background supporting materials of *Growing Success* in the form of The Definition and Selection of Competencies (DeSeCo) Project, sponsored by the Organisation for Economic Co-operation and Development (OECD). This project supports the chosen competencies that students learn in the face of 'the globalization and modernization of our world, and the need for individuals to 'master changing technologies'. As societies, there are collective

[51] Charlotte Knowles, "Feminist Perspectives on Well-Being," in *The Routledge Handbook of Well-Being*, ed. Kathleen Galvin (New York: Routledge, 2018), 70.

challenges "…such as balancing economic growth with environmental sustainability, and prosperity with social equity."[52] The OECD has three categories of competency, spelled out in detail in *GS*. They are (a) using tools interactively; (b) interacting in heterogeneous groups; and (c) acting autonomously.

An older policy document that is meant to provide support for newer policies, *Choices into Action* 1999, organizes learning skills into three areas: student development, interpersonal development, and career development. Both student development and interpersonal development focus on 'learning to demonstrate self-discipline' and taking 'responsibility for their own behaviour'. These areas are also supposed to align with the 2006 initiative *Finding Common Ground: Character Development in Ontario Schools, K-12.* These examples show background support for increasing students' independence via the cultivation of autonomy, which by 2014's *AE* was recharacterized as a concern for well-being. The shift from autonomy to well-being imagined as independence reflects the epistemology of mastery with its desire for self-reliance and control and the instituted imaginary's ability to co-opt challenges to its organizations. The examples also show an ongoing concern with economics and jobs, which demonstrate a lack of imagination for how society may be organized in the future if we truly accepted the power of the critical-creative instituting imaginary.

The MOE of Ontario's "Plan of Action" for their third key goal in *AE* is to work with their partners to make supports and resources easier to access, increase interest

[52] Government of Ontario. *Growing Success: Assessment, Evaluation and Reporting in Ontario Schools*, 1st edition (PDF, Queen's Printer for Ontario, 2010) 12-13.

among students, and raise awareness of options and opportunities, not just for students but for parent, guardian, and caregiver engagement. The institution seeks to "support all students and staff in finding ways to be leaders and contributors to the school and broader community."[53] To assess progress towards this goal, the MOE commits to three things. First, it will "work with our partners to identify the factors that support student well-being and then adopt ways to measure them"; it will "monitor children's success beyond full-day kindergarten through existing mechanisms (e.g. school report card information, ongoing implementation of the Early Development Instrument and EQAO annual assessments) to ensure that children continue to benefit throughout the later grades"; and finally, it will "work with school boards to ensure that efforts to build safe and accepting schools are supported by high-quality data, including data from school climate surveys conducted every two years."[54] Though the MOE is committed to localized and specific consultation and evidence-based research, material questions do arise about precisely which partners are being consulted, and what weight their inputs are given. One might also worry about the disciplinarity behind the monitoring of success from full-day kindergarten (FDK) to grade 12, given that such measuring reinforces the necessity of the uniformity of standardized testing, perhaps at the loss of focus on the local, which is better suited to be responsive to particular needs of particular students. Local responsivity is better suited for the goal of enhancing student well-being because students are differently situated, having different interests and needs, different home lives, different

[53] Ontario, *Achieving Excellence*, 16.
[54] Ontario, *Achieving Excellence*, 16.

relationships, etc. Addressing student needs and meeting students where they are in their specificity and particularities will be more beneficial for the students, allowing them to achieve well-being in a way that a uniform globalized or even province-wide approach will not.

c. Ensuring Equity

The final example of tensions in MOE policy documents comes from *AE*'s goal (ii): ensuring equity. This goal is loaded with the rhetoric of diversity and inclusion, including instituting significations that are ecological, or at least compatible with ecological epistemology. The goal is to make Ontario's education system the most equitable in the world, and in order to do that, the system and its constituents must move "beyond tolerance and celebration to inclusivity and respect."[55] In order for those subjected to the system to feel engaged and included, "…educators and students [should] value diversity, respect each other, and see themselves reflected in their learning."[56] A culture shift is mentioned, where the MOE insists that diversity is now acknowledged as a contributor rather than a barrier to success. This may be an attempt of the operative social imaginary to co-opt new significations from the instituting imaginary without disrupting the internal logic of the epistemology of mastery. Evidence that this is the case is the reliance on identifying and counting 'performance gaps.'

[55] Ontario, *Achieving Excellence*, 8.
[56] Ontario, *Achieving Excellence*, 8.

Here, as in the introduction, the policy mentions that some groups in particular who 'suffer' from 'performance gaps' in achievement, including "some of our Aboriginal students, children and youth in care, children and students with special education needs, recent immigrants and children from families experiencing poverty."[57] Ensuring equity for the MOE involves identifying and subsequently closing these performance gaps. Meeting this goal involves providing learning opportunities and supports for these "students who may be at risk of not succeeding."[58] Reflecting back to the first goal, this goal affirms that "Equity and excellence go hand in hand. So, while Ontario has come far in closing gaps for many learners, more needs to be done for those students who struggle the most."[59] A lot of the things that caused 'performance gaps' cannot be ascribed to the actions of any one agent or group of people, but in fact persist and are perpetuated through social structures and organizations. Ecological epistemology gives us a way to rethink responsibility in a social or collective sense, rather than primarily individualist notion of responsibility. The epistemology of mastery reinforces the individualist responsibility, even when individuals cannot change the conditions of oppression without social collective efforts.[60] Emphasizing the institution's responsibility for social inequalities does challenge the individualism of the epistemology of mastery, but it sits in tension with valued characteristics like resilience which reinforces an individualized responsibility, especially once the playing field is perceived to be a level one.

[57] Ontario, *Achieving Excellence*, 8.
[58] Ontario, *Achieving Excellence*, 8.
[59] Ontario, *Achieving Excellence*, 9.
[60] Knowles, "Feminist Perspectives on Well-Being," 71.

Under the "Plan of Action," three of the nine bullet points are specific to the needs of Aboriginal students, going some way to address the horrific lack of support these communities have received thus far. One actionable item demands the system to "Provide greater support for First Nations students when they transition from on-reserve schools to provincially funded schools."[61] Unlike the residential schools under the Indian Act of 1876, this time, assimilation is not the explicit goal, and in fact there is a plan to "increase knowledge and understanding of First Nations, Métis, and Inuit cultures and histories to enhance the learning experience of both Aboriginal and non-Aboriginal students."[62] Other parts of the action plan include timely and effective intervention to help students who are struggling; integration of education services with other services from ministries and community partners – specifically for children and youth with special needs; increase academic support for youth in care, and better support adult learners. To assess progress towards these goals, Ontario will monitor the graduation rates and achievement gaps for these named groups of students. Next, they will "set measures of student engagement and belonging for all students, especially those who may be at risk of lower achievement."[63]

This section of *AE* has many instances of the critical-creative power of the instituting imaginary and shows that this power can (somewhat) successfully pressure the operative instituted imaginary. The MOE's goal reflects a renewed explicit attention to inequity in education. Still, the tension becomes especially apparent in the plan of action

[61] Ontario, *Achieving Excellence*, 13.
[62] Ontario, *Achieving Excellence*, 13.
[63] Ontario, *Achieving Excellence*, 13.

and the ways the MOE will measure progress of and metric deemed successful implementation of this goal: it falls back on standardized testing and performance gaps to identify inequity. When the document states "…with the precise information on student achievement that is available to school boards, we need to ensure that the support provided is focused and targeted at the students who need it most, regardless of their circumstances,"[64] this is, in effect, a rationale and justification for the continued use of EQAO's standardized testing to narrow or close performance gaps. Using standardized testing is inconsistent with the stated intention of being locally responsive to students' unique needs. Instead, standardized testing supports uniformity at the loss of local responsiveness.

In 2017, the MOE released Ontario's *Education Equity Action Plan* (*EEAP*). This document expands on what is found in *Achieving Excellence* – it begins with "Moving Forward: Fulfilling Our Renewed Vision for Education." The introduction refers back to the Achieving Excellence document, affirming an interrelation between the four key goals.[65] The document similarly reinforces the MOE's goal hierarchy for students: while in the first paragraph it says every student should have the opportunity to succeed personally and academically, in the following paragraph the *EEAP* equity plan is meant to "…inspire every child and student to reach their full potential and to become personally successful, economically productive and actively engaged citizens."[66] In this

[64] Ontario, *Achieving Excellence*, 13.
[65] Government of Ontario, *Ontario's Education Equity Action Plan*, (PDF, Queen's Printer for Ontario, 2017), 3.
[66] Ontario, *Equity Action Plan*, 4.

more recent document, performance gaps are called achievement gaps, which are linked to feelings of being included. Not feeling included in their school community "…can have long-term negative impacts in other areas, such as health, well-being, economic self-sufficiency and participation in society."[67] The document also points out that the effects of not being included affect more than just individual learners, rather, the harm ripples outwards to families, communities, and are often seen across generations. This statement is compatible with viewing the institution as a complex ecosystem. The inclusion of families and communities in addition to those physically attending the institutions is extended to the idea that "our schools should be places where students not only learn about diversity but also experience it."[68] This means supporting students and families by having the diversity of constituents reflected in learning, curriculum, lesson planning, etc. The document also praises teachers and education workers as forerunners in creating inclusive environments, further reinforcing that much of the education system's day-to-day mechanics rely on the professional judgment of teachers at the local level rather than at the policy level, insisting that "The vision of equity and inclusion for all must also be extended to our teachers, principals and education workers, who together anchor the broader school community."[69]

In addition to enlarging the institution's ecosystem, the *EEAP* document makes explicit its commitments to building capacity and developing resources to support LGBTQ and Two-Spirited students and their families. They will also "continue to

[67] Ontario, *Equity Action Plan*, 4.
[68] Ontario, *Equity Action Plan*, 4.
[69] Ontario, *Equity Action Plan*, 4.

provide resources and support professional development to combat Islamophobia, antisemitism, racism, homophobia and transphobia."[70] For example, to specifically address the wrongs done (historically and ongoing) to Indigenous communities, this document references *The Journey Together: Ontario's Commitment to Reconciliation with Indigenous Peoples* (2016). The *EEAP* describes the MOE's Indigenous Education Strategy, which is meant to support "… learning and achievement for Indigenous students and promote[s] awareness about First Nation, Métis and Inuit cultures, histories, perspectives and contributions in schools."[71] Other documents referenced include *Ontario's 3-Year Anti-Racism Strategic Plan*, the *Ontario Black Youth Action Plan*, *Ontario's Poverty Reduction Strategy*, and *Ontario's Accessibility Action Plan* (2016). The MOE shares more relationships here, stating that they are working with the Ministry of Advanced Education and Skills Development, the Ministry of Child and Youth Services, the Ministry of Community and Social Services, and the Accessibility Directorate of Ontario.[72] The presence of many partnerships and organizations helps to prove that equity is a value that the ministry takes seriously and strives to implement in its schools. It also indicates some success on the part of the instituting significations of ecological epistemology in disrupting and attempting to change the instituted significations.

The actions, policies and professional learning described in *AE* and the later *EEAP* are "…designed to identify and eliminate embedded systemic barriers and

[70] Ontario, *Equity Action Plan*, 5.
[71] Ontario, *Equity Action Plan*, 6.
[72] Ontario, *Equity Action Plan*, 6.

discriminatory institutional and instructional practices that negatively impact the achievement and well-being of students and lead to inequitable outcomes."[73] The focus is on identifying systemic barriers to equitable opportunity and treatment, caused by "…embedded biases in policies, practices and processes," noting that these biases are often unintentional, and encouraging us to focus on their impacts. [74] The explicit mention of structural or systemic barriers is an example of the critical-creative power of the instituting imaginaries challenging the instituted imaginary, showcasing the impact such power can have on the instituted order of things. There's even a nod to (operative) intersectionality as it states that diverse identifications can give rise to additional barriers and unique experiences of discrimination for some students.[7576] Unfortunately, their proposed solution reverts to the ensemblistic-identitary logic of the instituted imaginary, and reinforces an attitude of control: to address challenges, "we must find ways to detect structures or patterns of behaviour … to begin to identify barriers."[77] In other words, equity must be made measurable. By making equity measurable, the document suggests that "… we can try new approaches and allocate resources effectively to address and eliminate those barriers."[78] It does seem to take a pragmatic approach, stating that "we are committed to sharing current, evidence-based practices, programs and pedagogies,

[73] Ontario, *Equity Action Plan*, 10.
[74] Ontario, *Equity Action Plan*, 10.
[75] Ontario, *Equity Action Plan*, 10.
[76] Elena Ruíz, "Framing Intersectionality," in *The Routledge Companion to Philosophy of Race*, eds. Paul C. Taylor, Linda Martín Alcoff, and Luvell Anderson (New York: Routledge, 2018), 335-348. Ruíz argues for a distinction between a whitewashed operative intersectionality that is taken up in academia and the media, and the diagnostic tool devised by black feminists "as an advocacy strategy to diagnose and combat interlocking systems of oppression" (335).
[77] Ontario, *Equity Action Plan*, 10.
[78] Ontario, *Equity Action Plan*, 10.

exploring innovative program options and enacting policies that will help address all forms of discrimination,"[79] though it is unclear whether or not they aim to, or will indeed, take a local, intersectional approach, or if they are looking for a one-size-fits-all solution to discrimination. At times, responsiveness to locality is emphasized, such as when the document introduces "culturally responsive pedagogy" which "recognizes that all students learn in ways that are connected to background, language, family structure and social or cultural identity."[80] It continues, "It goes beyond recognizing uniqueness to intentionally nurturing it in order to create and facilitate effective conditions for learning."[81] It is not clear how compatible a culturally and locally responsive pedagogy is with a system of education that intends to provide comprehensive and cohesive programs throughout the province that extend from birth to adulthood.[82]

A further issue with the goal of ensuring equity is found in the sub-goal of identifying "…existing systemic barriers and remove them, and to guard against such barriers."[83] This phrasing postulates that the system can remain stable during the excision of barriers and subsequent transformation. How deep do the biases go? The document does address this somewhat, under the heading Organizational Culture Change, where it states, "The removal of systemic barriers calls for a systemic culture change driven by our core values and respect for principles of equity and inclusion."[84] It calls on the MOE to lead by example. But beyond the institution of education in Ontario, we might ask how

[79] Ontario, *Equity Action Plan*, 10.
[80] Ontario, *Equity Action Plan*, 16.
[81] Ontario, *Equity Action Plan*, 16.
[82] Ontario, *Achieving Excellence*, 20.
[83] Ontario, *Equity Action Plan*, 14.
[84] Ontario, *Equity Action Plan*, 19.

radical a transformation is the operative instituted social imaginary willing to withstand? In the next chapter, we will discuss Kristie Dotson's 'degree of change and/in epistemic systems' lens, where she considers the resiliency of epistemic systems in relation to ongoing epistemic injustices those subjected to the systems face. The instituted imaginary is stable and dynamic enough to co-opt or otherwise incorporate critiques and new significations into its logic, and so is exceedingly difficult to radically transform.

Conclusion

Achieving Excellence: A Renewed Vision for Education in Ontario ends with a brief conclusion that reiterates the fact that "Ontario is setting its sights on a comprehensive and continuous education system that supports children all the way from birth to adulthood."[85] The conclusion also reiterates the importance of interconnection and relationship: "At the core of

> *Achieving Excellence* is a commitment to collaborative, continuous learning among educators, leaders and government. Combined with broad partnerships with families, communities and businesses, all working together, we can create a system that is even more accessible, integrated and responsive – one that will give our children the knowledge and skills they need to succeed and the confidence to embrace the challenges of the future."[86]

This paragraph reiterates a commitment to interdependency and collaboration between the constituents of Ontario's public education ecosystem. These are the values introduced and emphasized by the critical-creative instituting power of the social imaginary.

[85] Ontario, *Achieving Excellence*, 20.
[86] Ontario, *Achieving Excellence*, 20.

Consultation with diverse groups and explicit dedication to evidence-based research explains how these commitments have germinated, though it is still a question whether they will be able to root deeply enough to effect radical change to the operative social imaginary, especially when they are incapacitated by the underlying epistemology of mastery.

> The final paragraph of *AE* is telling: "By raising expectations for what our education system can accomplish, *Achieving Excellence* can help uncover and develop the potential of all learners. It will reveal their hidden gifts and spark new passions for future careers. We can develop compassionate ad actively engaged citizens who graduate high school equipped for the technology-driven, globalized world. They will be well-rounded individuals who have not only strong basic skills but also the critical thinking skills, imagination, and resilience to excel in – and create – the new jobs of tomorrow.[87]

The instituted imaginary is limited in its insistence on the importance of the economy and jobs to support the economy; it seems unable to imagine otherwise, which does not bode well for the students imagining otherwise (even though this is what they expect students to do if we take the document at its word). The three policy examples discussed in this chapter help to highlight how the instituting social imaginary does permeate and work to change the institution, but it has limited success because the proposed changes are implemented using tenets of the epistemology of mastery. Despite the significant amount of potentially ecological input, the policy passively endorses the need to control insofar as it encourages cultivation of individualized autonomy as the path to success. It also actively promotes the ensemblistic-identitary logic of the epistemology of mastery in its

[87] Ontario, *Achieving Excellence*, 20.

insistence on data collection and the use of said data to manage the institution. In particular, the measurements of graduation rates over time and identification of groups whose data can be collected to measure performance gaps are examples of data being collected to quantify and measure progress. Such measurement transforms the institutional project from improving actual practices and lives of constituents (as imagined by the instituting imaginary) to collecting data in an effort to prove to the public, or, more specifically, to funders, that progress is indeed being made. This has the consequence of shifting institutional concentration from identifying needed interventions to aid progress to collecting the needed data to prove progress or success. As Sara Ahmed writes, "a document that documents the inequality of the university becomes usable as a measure of good performance," noting that the document itself exhibits a performative action that justifies or legitimizes the collection of data, turning the original goal of external results inward toward self-justification of enhanced performativity of the system.[88] We are asked to judge the efficiency and accountability of educational organization through measurability and metrics rather than the outcomes generated by such data collection.

In this chapter, I have explored the past and present of Ontario's education system, drawing attention to the complex interdependency of constituents in the ecosystem and the relationships maintained by the MOE. I then discussed three policy examples, enhancing public confidence, achieving excellence and promoting well-being, and ensuring equity, exhibiting the system's astriction to the epistemology of mastery of

[88] Ahmed, *On Being Included*, 84.

the operative, instituted social imaginary, even while it attempts to transform itself into an institution more closely aligned with ecological thinking.

Chapter Three: An Ecological Analysis of Epistemic Injustice

I. Introduction
II. Fricker's Theory of Epistemic Injustice
III. Epistemic Injustice and the Social Imaginary
IV. An Ecological Theory: Dotson's Epistemic Exclusions
V. Conclusion

Introduction

Taking up the conceptual framework of epistemic injustice will help to elucidate some of the detrimental consequences of underwriting Ontario's public institution of education with the significations of an epistemology of mastery. By adopting and applying the insights of ecological epistemology, we can come to see how the epistemology of mastery that sustains current educational policy negatively affects children's epistemic agency. The epistemology of mastery and its significations enjoy a hegemonic status in the dominant operative social imaginary and so shape the epistemic landscape, situating some children in positions that are more vulnerable to experiencing epistemic injustices. The harms are multifarious: cases of interactional or transactional epistemic injustice harm individual agents who experience the effects of prejudicial stereotypes; structural cases harm both advantaged and disadvantaged groups because of prejudiced epistemic resources (though the harm is rarely symmetrical); both instantiations cause harm to the very processes of knowledge generation and dissemination and thus to society at large. Education is often thought of as the processes of transmission of valuable knowledge in order to develop knowledgeable, autonomous

students who themselves will become able to participate in the social dissemination of knowledge. In Ontario's guiding policy, *Achieving Excellence*, students are expected to become personally successful, economically productive, and actively engaged citizens. Whether understood through significations the epistemology of mastery or ecological epistemology, this goal can be circumscribed by students experiencing epistemic injustices. If students are harmed by experiencing epistemic injustice, then their capacity to communicate knowledge and persuasively contribute to epistemic negotiations is thwarted. An institution of education, such as Ontario's, should have a goal of lessening occurrences of epistemic injustices for its constituents.

Epistemic injustice is a concept, coined by Miranda Fricker, which facilitates the tracking of certain types of harms and exclusions that people face: epistemic harms. As described in the eponymous Routledge handbook, epistemic injustice "refers to those forms of unfair treatment that relate to issues of knowledge, understanding, and participation in communicative practices."[1] Unfair treatment can be realized in interpersonal transactions, or it can be the consequence of structural dysfunction(s) in our epistemic institutions, resources, and practices. Gaile Pohlhaus, Jr. contends "… an epistemic injustice not only wrongs a knower as a knower, but also is a wrong that a knower perpetrates *as* a knower and that an epistemic institution causes *in its capacity* as

[1] Ian James Kidd, José Medina, and Gaile Pohlhaus, Jr., "Introduction to The Routledge Handbook of Epistemic Injustice," in *The Routledge Handbook of Epistemic Injustice*, eds. Ian James Kidd, José Medina and Gaile Pohlhaus, Jr. (New York: Routledge, 2017), 1.

an epistemic institution."[2] Though the wrongs and resultant epistemic harms vary in practice and in impact, these instances of unfair treatment can be grouped together as epistemic injustices whenever the injustice is related to identity prejudices which affect one's capacity as a knower, or as an epistemic agent. The intrinsic harm of epistemic injustice is that one's status as an epistemic agent, as one who participates in and is able to persuasively and meaningfully contribute to practices of knowledge production within one's communities, is denied, diminished, or otherwise denigrated.

An analysis of epistemic injustice must refuse to separate the epistemic from the ethical dimensions of communication practices. It will also begin with two feminist commitments: that all knowers are situated and occupy varying socio-epistemic positions within an epistemic landscape, and that all knowers are (inter)dependent on others in their communities. These two commitments are congruous with the significations of ecological epistemology made possible through the instituting power of the social imaginary: epistemic location; co-constitutive or intra-active relationality; and local responsivity and attention to particularities. Fricker's original framing aligns with some of these significations, but the theory could still be made more ecological. In particular, an ecological analysis would need to reconceptualize the way Fricker imagines epistemic injustice to occur within a knowledge economy; ecological thinking instead describes the epistemic landscape as a knowledge ecology. Other issues that must be addressed for an ecological analysis are the tension between structural and agential dimensions of

[2] Gaile Pohlhaus, Jr., "Varieties of Epistemic Injustice" in *The Routledge Handbook of Epistemic Injustice*, eds. Ian James Kidd, José Medina and Gaile Pohlhaus, Jr. (New York: Routledge, 2017), 14. Emphasis in original.

epistemic injustices both in Fricker's descriptions and prescriptions and the limitations of a proposed solution that focuses on developing individual virtues to counter and resist epistemic injustice.

Kristie Dotson describes epistemic agency as "… the ability to utilize persuasively shared epistemic resources within a given epistemic community in order to participate in knowledge production and, if required, the revision of those same resources."[3] Agents exercise their agency within epistemic systems, which are complex organizational schemas that organize (in a normative sense) epistemic resources, including cognitive habits, attitudes and sensibilities, norms and conventions, and expectations and sanctions, which then become instantiated in institutions and in material resources.[4] Epistemic systems should be understood as organizing schemas of social imaginaries since social imaginaries "…work to shape and govern possibilities of being, thinking, acting through metaphorics, images and symbolisms woven into our epistemic systems, ultimately legitimating some relations and practices and occluding or precluding others."[5] Epistemic systems are stable and resilient; they are often able to accommodate dynamic changes in the epistemic landscape. The dominant (hegemonic) epistemic system can be called the operative, instituted social imaginary because its set of epistemic resources are those most in operation, and are reinforced in institutional practice.

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[3] Kristie Dotson, "A Cautionary Tale: On Limiting Epistemic Oppression," *Frontiers* 33, no. 1 (2012), 24. See also Kristie Dotson, "Conceptualizing Epistemic Oppression," *Social Epistemology* 28, no. 2 (2014), 115.

[4] Dotson, "Conceptualizing Epistemic Oppression," 121. Since our eventual focus is education, we can think of material resources comprising of things like policies, curriculum documents, textbooks, etc.

[5] Lorraine Code, *Ecological Thinking: The Politics of Epistemic Location* (Oxford: Oxford University Press, 2006), 7.

Dotson reframes epistemic injustices as forms of epistemic exclusions using what Pohlhaus, Jr. calls *the degree of change and/in epistemic systems lens*. For Dotson, epistemic injustices are examples of epistemic oppression. This framing is preferable for an ecological analysis since it focuses our attention first on the epistemic landscape itself, the epistemic systems or social imaginaries in which agents are situated. Using Dotson's framing of epistemic oppression, we can expand Fricker's theory to identify a third type of epistemic exclusion, contributory injustices, which attends to the tensions between agential and structural causes of and contributions to harm. It is through acknowledgement of social imaginaries that we are able to understand this kind of epistemic exclusion, and it is acknowledgment of social imaginaries that reveals a path to overcoming the harms faced by those who are excluded.

The chapter will proceed in three parts: first, I will introduce Fricker's description of epistemic injustice, including her proposed dualistic taxonomy: testimonial injustice and hermeneutical injustice. Then I will discuss the notes of consonance and dissonance with the significations of ecological epistemology. By adopting the conceptual framework of social imaginaries, I aim to fruitfully critique Fricker's theory and motivate a turn to ecological analyses. To this end, I will argue in favour of Dotson's *degree of change and/in epistemic systems lens* as a preferred framing for use in an ecological analysis. Dotson's 'degree of change' perspective prefers to analyze types of epistemic oppression as orders of epistemic exclusion; it focuses principally on the epistemic systems and the kinds of social change needed to address and rectify the harms or exclusions that agents

face. I will align Dotson's lens with the significations of ecological epistemology and show how her framing overcomes the limitations of Fricker's framework.

Fricker's Theory of Epistemic Injustice

In 2007, Miranda Fricker published *Epistemic Injustice: Power and the Ethics of Knowing* wherein she identifies ways that agents can be mistreated and thereby harmed in a specific capacity: as a knower. The theory of epistemic injustice attempts to systematically capture the multitude of ways knowers are not recognized as credible epistemic agents and the resultant harms. Fricker is interested in describing the mechanisms of power that sustain these injustices, since the epistemic landscape in which agents gain and exchange knowledge is one that admits of power, privileging some agents (and groups) and disadvantaging others. Testimonial exchanges do not occur on an equal playing field, and there is not equal opportunity to meaningfully participate in knowledge production practices and negotiations, contrary to any images of knowledge as apolitical and exchanges and negotiations of knowledge as meritocratic in nature. Probing deeper into operations of power and their impact on communicative exchanges, Fricker invokes the social imagination, writing, "…any operation of power is dependent upon the context of a functioning social world – shared institutions, shared meaning, shared expectations, and so on."[6]

[6] Miranda Fricker, *Epistemic Injustice: Power and the Ethics of Knowing* (Oxford: Oxford University Press, 2007) 11-12. The social imagination is not the same concept as the social imaginary; we will return to this point shortly.

An agent possesses her social power in virtue of her situated place in the broader network of power relations, and it is within these relations that the powerful are practically able to effect social control over some others. This not only reflects an individual agent's social location but how her personal identity is constituted by group membership and identity categories. Fricker divides power into *agential* power, where agent actions are vehicles for power, and *'purely' structural* power (Fricker's phrasing) when no particular social agents are exercising power. Structural power exists when the power that influences behaviour is "… so thoroughly dispersed in the social system that we should think of it as lacking a subject."[7] For Fricker, then, structures and individuals are the loci of power. Both agential and structural instantiations of social power are socially situated, insofar as they depend on coordination with social others, whether it is practical coordination or shared imaginative coordination. Our focus is on social power in conjunction with the shared imagination and its shared epistemic resources. For Fricker, it does not matter whether the social power exists within agents or purely structurally, or whether it exerts active or passive control; if the operation of power "… depends in some significant way upon such shared imaginative conceptions of social identity, then *identity power* is at work."[8]

Identity power is meant to capture the imaginative or discursive aspects of social power, the non-material aspects, though it always operates in conjunction with other forms of social power, including material operations of social power. Identity power

[7] Fricker, *Epistemic Injustice*, 11.
[8] Fricker, *Epistemic Injustice*, 14.

operates "at the level of shared conceptions"; through prejudices and stereotypes about identity categories, it effectively produces and confines subjectivities simultaneously.[9] Giving a neutral definition of social power, Fricker writes, "Identity power, like social power in general, may be agential or purely structural; it may work positively to produce action or negatively to constrain it; and it may work in the interests of the agent whose actions are so controlled, or again it may work against them."[10]

Fricker is concerned with how identity power operates in testimonial exchanges. It is within these exchanges where we can easily identify identity power's dual epistemic and ethical dimensions. When actions or structures are influenced by a negative prejudicial stereotype about one's social identity (what Fricker calls identity prejudice), and these identity prejudices shape (consciously or, more often, sub-doxastically) testimonial exchanges between socially situated interlocutors, then the exchange is distorted by dual epistemic and ethical dysfunctions.

When communicative or knowledge exchanges happen between two agents, the success of such exchanges depends directly on imaginative social coordination, that is, on having shared epistemic resources such as stereotypes and images to make sense and communicate that sense to others. When identity power is operative during an exchange, each participant will make credibility assessments about the other by drawing on collectively shared stereotypes as a heuristic (i.e., as an epistemic resource). Insofar as "…stereotypes are widely held associations between a given social group and one or

[9] Fricker, *Epistemic Injustice*, 16.
[10] Fricker, *Epistemic Injustice*, 16; see also 55.

more attributes," or collectively held conceptions about some identity category's putative attributes, there are more or less reliable stereotypes, some more distorted than others.[11] An example of a reliable stereotype might be 'wealthy people often have wealthy parents.' Fricker's proffered example is that family doctors are dependable.[12] An example of an unreliable stereotype is 'women are less rational than men.' This stereotype is unreliable because it depends on a generalization that does not correspond to empirical evidence; it is prejudicial. Fricker conceives of stereotypes as heuristic aids that communicators make use of, which draw on some empirical generalization about a social group, noting that stereotypes can hold positive, neutral, or negative valence. In general, the reliance on stereotypes allows epistemic agents to make credibility assessments and build epistemic trust with others in a dynamic and complex social environment where testimonial exchanges are spontaneous, routine and commonplace. Stereotypes allow everyday testimonial exchanges to occur, being shared epistemic resources that persist within the collective social imagination. Stereotypes are epistemic resources that agents employ in communicative exchanges even when they are not recognized as or compatible with consciously held beliefs.

While stereotypes are a necessary component of engaging with social others in the world, some stereotypes are supported by prejudices. Prejudices often operate below the level of conscious belief, but as they are accompanied by affective attachments, they are powerful contributors to credibility assessments. The association in a prejudicial identity

[11] Fricker *Epistemic Injustice,* 30. Emphasis in original.
[12] Fricker, *Epistemic Injustice,* 32.

stereotype is a false one, an unreliable empirical generalization. Prejudices, for Fricker, can have either (or both) positive or negative valence, and persist due to a "resistance to counter-evidence owing to some affect investment on the part of the subject."[13] When these prejudices are about a social group's identity, and they hold negative valence, they are called negative identity-prejudicial stereotypes. A negative identity-prejudicial stereotype can lead to distorted perceptions and distorted assessments of the speaker by the hearer.[14] These distorted perceptions and assessments can lead to instances of epistemic injustice. Fricker identifies two broad types of injustices that are peculiar to the epistemic: testimonial injustice and hermeneutical injustice. Testimonial injustice captures epistemic injustices that occur as the result of dysfunctional agential power, whereas hermeneutical injustice captures harmful effects of dysfunctional structural power.

Testimonial injustice captures harms surrounding testimonial practices (i.e., practices of communicating and sharing knowledge). It tracks wrongs that are generated by agential power – testimonial injustice occurs due to unwarranted assessments of credibility and thus depends on individual agents making those assessments, even while they draw on collective epistemic resources like stereotypes. For Fricker, testimonial

[13] Fricker, *Epistemic Injustice,* 35.

[14] Fricker, *Epistemic Injustice,* 35. In José Medina, "The Relevance of Credibility Excess in a Proportional View of Epistemic Injustice: Differential Epistemic Authority and the Social Imaginary," *Social Epistemology* 25, no. 1 (2011), Medina thoughtfully expands the account of epistemic injustice from Fricker's initial concentration on credibility deficits by showing that credibility excesses can also lead to epistemic injustice. Fricker does consider attributions of credibility excess (see *Epistemic Injustice,* 18-21) but argues that it is cumulative effects of excessive attributions that may cause epistemic injustice and insists that testimonial injustices ought to focus on token cases.

injustice involves unwarranted credibility attributions due to a negative identity-prejudicial stereotype which is resilient and resistant to counter-evidence because of an "ethically bad affective investment."[15] A speaker (our putative knower) may be unfairly thought of as incredible or noncredible based on stereotypes their interlocutor holds about social groups to which the speaker belongs, especially when the stereotypes are supported by negative identity prejudices. Since stereotypes and controlling images are particularly potent epistemic resources with which epistemic agents navigate the world, negative prejudicial stereotypes can influence biases (implicit as well as explicit) and thereby affect how one hears another's testimony by subconsciously attributing a credibility deficit where it is unwarranted.

The primary ethical harm of testimonial injustice is "due to the ethical poison of prejudice" which resists the available evidence.[16] It distorts the hearer's perception of the speaker. It is dehumanizing to have a credibility deficit attributed to an agent based on stereotypes about their shared social identity(ies). The intrinsic harm is that one is wronged in their capacity as knower, which, for Fricker, is an essential human capacity.[17] The ability to use reason, to have and share knowledge with others is, for Fricker, part of what makes one human. Therefore, testimonial injustices undermine one's humanity. This is especially harmful when it occurs persistently and systematically, affecting interactional exchanges across many dimensions of social activity. Testimonial injustice can be thought of as "identity-prejudicial exclusion from the community of epistemic

[15] Fricker, *Epistemic Injustice*, 35.
[16] Fricker, *Epistemic Injustice*, 22-23.
[17] Fricker, *Epistemic Injustice*, 44.

trust"[18] This exclusion can lead to secondary harms, both practical and epistemic. The epistemic harm of testimonial injustice is that it prevents the speaker from conveying knowledge. When testimonial injustice occurs, knowledge is prevented from being passed on, received, or taken up. This disadvantages not only the speaker but also the hearer and causes obstructions in the general circulation of knowledge. The epistemic system is also limited by persistent and systematic instances of testimonial injustice since persuasive negotiations about social meanings and access to meaning-making practices become available only to privileged agents (those who are deemed credible). When this happens, the epistemic resources within the social imagination come to reflect contingent power dynamics rather than the complex ecosystem of epistemic resources that exists in the society.

Hermeneutical injustice describes another type of wrong that agents face, capturing instances when knowers are harmed due to prejudiced structural causes. Fricker settles on this definition of hermeneutical injustice: "the injustice of having some significant area of one's social experience obscured from collective understanding owing to a structural identity prejudice in the collective hermeneutical resource."[19] These injustices do not necessarily depend on agential interactions; they happen when epistemic resources themselves are discriminatory so as to foreclose possibilities of interpretation, not only for interlocutors, but even for the speaker or experiencer herself. The identity

[18] Fricker, *Epistemic Injustice*, 46.
[19] Fricker, *Epistemic Injustice*, 155.

prejudice in hermeneutical injustice is a structural one, according to Fricker, which exists within the collective hermeneutical resources themselves.[20]

Hermeneutical injustice gains traction in conjunction with the feminist insight of socially situated interdependence. Agents are socially situated within complex power relations, such that their social position affords them differential access and authority in structuring collective social meanings, including significations. This means that stereotypes will often come from and reflect dominant perspectives, since the powerful have an unfair advantage when it comes to constructing and privileging social meanings. Those in marginalized or disadvantaged social positions have at best ill-fitting resources to draw on in the effort to render their experiences intelligible. Fricker recognizes that social positions cause unequal hermeneutical participation, arguing that "this sort of inequality provides the crucial background condition for hermeneutical injustice."[21] Those in disadvantaged groups who are less able to participate in the construction(s) of meaning are *hermeneutically marginalized*. Members of these groups do not have sufficient social power to affect or negotiate the meaning of dominant epistemic resources, even when those resources purport to being able to capture a multitude of experiences from different perspectives.

Hermeneutical injustice does not depend on any one agent's actions. Structural prejudices influence what counts as hermeneutical or epistemic resources in the first place, leaving gaps or lacunae in the shared pool of resources, where some experiences

[20] Fricker, *Epistemic Injustice*, 159.
[21] Fricker, *Epistemic Injustice*, 152.

are not interpretable or intelligible, even by the one who experiences them. Fricker explains that "…extant collective hermeneutical resources can have a lacuna where the name of a distinctive social experience should be."[22] When this lacuna exists, people who are hermeneutically marginalized are harmed by either not being able to articulate their experiences in a way that makes sense to others, or by not being able to make sense of their own experiences themselves. José Medina warns that "hermeneutical harms should not be minimized or underestimated, for the interpretative capacities of expressing oneself and being understood are basic human capacities."[23] But the resulting harm is not just a subjective disadvantage to the marginalized person; it is also a harm done to others, including the privileged and powerful. The epistemic system itself renders the collective hermeneutical resources structurally prejudiced and therefore essentially discriminatory, which forecloses possibilities of changing or ameliorating our bodies of knowledge and practices involving knowledge exchanges.[24]

Testimonial injustice and hermeneutical injustice are meant to capture agential and structural discriminations, respectively. To address either or both of these two forms of epistemic injustice, Fricker proposes that agents ought to develop individual epistemic virtues such as the virtue of testimonial justice, a sensitivity to hearing other voices that reflexively and consciously adjusts credibility attributions in accordance with the available evidence and against common identity prejudices in the social imagination.

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[22] Fricker, *Epistemic Injustice,* 150-151.
[23] José Medina, "Varieties of Hermeneutical Injustice," in *The Routledge Handbook of Epistemic Injustice,* eds. Ian James Kidd, José Medina, and Gaile Pohlhaus, Jr. (New York: Routledge, 2017), 41.
[24] Fricker, *Epistemic Injustice,* 155.

This involves taking into account both the speaker's social identity and the hearer's social identity, acknowledging how each impacts the hearer's credibility judgments. Fricker insists that the virtue of testimonial justice requires a "distinctly *reflexive* critical social awareness" in order to be properly corrective and anti-prejudicial.[25] It requires a sensibility able to shift from an unreflective and spontaneous mode of interaction to an active critical reflection whenever the agent suspects identity prejudices might be involved in the testimonial exchange, making the agent a virtuous hearer who can "*neutralize the impact of prejudice in her credibility judgments."*[26]

Epistemic Injustice and the Social Imaginary

Fricker's conceptualization of epistemic injustice has several affinities with ecological epistemology and its significations of epistemic location/situatedness, co-constitutive/intra-active relationality, and local responsivity to particularities. When describing her theory of epistemic injustice, Fricker describes an epistemic landscape that is very different from what is typically imagined in modern Western social imaginaries, as she insists on a direct and inseparable connection between issues of epistemology and ethical issues.[27] She acknowledges the importance of complex relationality, beginning with the feminist insights that all knowers are situated in a social-historical context and (inter)dependent on others in their communities. These commitments are shared by

[25] Fricker, *Epistemic Injustice*, 91.
[26] Fricker, *Epistemic Injustice*, 92. Emphasis in original.
[27] Incorporating the ethical in the epistemic is an instance of instituting power of the social imaginary. Theories of epistemic injustice have been taken up and instituted in the approximately 15 years since Fricker's publication, a feat not taken lightly. The ideas continue to be negotiated, debated, contested, and confirmed as the theory is taken up in the knowledge ecology.

ecological epistemology.[28] As mentioned above, Fricker argues that the epistemic landscape provides the background conditions in which epistemic injustices occur. Determining an agent's epistemic location is of paramount importance in epistemic analyses which attend to relations of power and privilege: contrary to the images of knowledge supported by the epistemology of mastery, testimonial exchanges do not afford an equal opportunity for all to participate or negotiate collective meanings and significations. To be a knower requires coordination and cooperation with social others, thus Fricker describes agents as situated within a power-infused epistemic landscape, which is preferable to descriptions of epistemic agents as individual, independent, and prior to their environments and relationships with others.

In the original book, Fricker makes use of the concept of the 'social imagination,' which she purposefully uses instead of the social imaginary. The social imagination is meant to refer to the collective pool of epistemic or hermeneutical resources on which agents draw to make sense of the world, and with which they make credibility assessments during testimonial exchanges. She charges that conceptually, the social imaginary is too theory-bound in psychoanalytics, whereas the social imagination is more neutral and thus better suited for her argument.[29] She calls the social imagination a "perfectly serviceable, non-theoretical notion" and later a "relatively non-theorized concept." She invokes the methodological principle of Ockham's razor to choose the

[28] As mentioned in the introduction, ecological epistemology is compatible with, but not identical to, many feminist theories/commitments.
[29] Miranda Fricker, "Replies to Alcoff, Goldberg, and Hookway on *Epistemic Injustice*," *Episteme* 7, no. 2 (2010), 167.

"better (simpler, clearer, and this this case perhaps less restrictive)" concept instead of opting for the "highly theorized" concept of the social imaginary.[30] The choice to disidentify with the social-historical genealogy of the concept is an example of the lingering influence the epistemology of mastery has on theories, even theories that are explicitly aimed at resisting and challenging some of its significations. An ecological analysis sticks with the trouble of a concept's genealogy.

Contra to Fricker, I contend that the theory-laden concept of social imaginaries can help us to better understand the epistemic landscape in which epistemic injustices occur. In the case of hermeneutical injustice, Fricker asks us to "focus on the background social conditions that are conducive to the relevant hermeneutical lacuna. When social position makes it so that there is unequal hermeneutical participation, this sort of inequality provides the crucial background condition for hermeneutical injustice."[31] Describing epistemic systems as instantiations of social imaginaries is helpful to understand Fricker's notion of hermeneutical marginalization, since social imaginaries provide the architecture and infrastructure for the conceptual rhetorical-discursive spaces wherein meanings are shared, as images, but also as metaphors, standards and expectations; the social imaginary is a shared rhetorical space where affective associations function sub-doxastically, influencing identity prejudices that take the shape of controlling images or stereotypes.[32] Social imaginaries are more contextually responsive, dynamic and complex

[30] Fricker, "Replies," 167-68.
[31] Fricker, *Epistemic Injustice*, 152.
[32] See Patricia Hill Collins, "Mammies, Matriarchs, and Other Controlling Images," in *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment* (London: Routledge, 2000), 69-96, for a discussion on controlling images. See also Lorraine Code, "Epistemic Responsibility" in *The*

than the one shared pool of epistemic resources which constitutes Fricker's collective social imagination. Agents participate in and have access to the dominant, operative social imaginary and the authority to confer meaning on signifiers differently depending on their socio-politically informed epistemic location. They may also have access to potentially radically different or overlapping social imaginaries that resist the meanings conferred by the dominant instituted social imaginary. By virtue of one's epistemic location, an agent may end up being shaped by more than one social imaginary, forced to navigate between them. An example of this is members of racialized groups, who often have their own circulated meanings and understandings of social-political realities, but at the same time must also engage with the significations of the dominant, operative, instituted social imaginary.[33] It is akin to what W.E.B. Du Bois called 'double-consciousness.'[34]

Fricker's theory of epistemic injustice, while influential in its own right, has some conceptual constraints for an ecological analysis, one of which lies in her description of

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Routledge Handbook of Epistemic Injustice, eds. Ian James Kidd, José Medina, and Gaile Pohlhaus, Jr. (New York: Routledge, 2017) for a discussion on prejudices in relation to social imaginaries.

[33] Nora Berenstain, "Epistemic Exploitation," *Ergo: An Open Access Journal of Philosophy* 3, no. 22 (2016),http://dx.doi.org/10.3998/ergo.12405314.0003.022. Berenstain argues that when dominantly situated persons compel marginalized persons to share the meanings and understandings from their social imaginaries, proving their experiences of oppression, it is a form of epistemic exploitation, which ultimately maintains structures of oppression by re-centering the desires of the dominant group and ensuring marginalized groups do endless and thankless cognitive and emotional labor.

[34] W.E.B. Du Bois, *The Souls of Black Folk* (Oxford: Oxford University Press, 2007), 8-9. See also John Pittman, "Double Consciousness," *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, last modified March 21, 2016, https://plato.stanford.edu/archives/sum2016/entries/double-consciousness/, for an extended discussion on the topic.

testimonial exchanges as happening in a knowledge economy.[35] The metaphor of the knowledge economy betrays a residual prejudice: reflecting the dominant social imaginary's assumptions about how knowledge is promulgated and disseminated, it is more congruent with the epistemology of mastery than with Code's ecological epistemology. According to Houghton and Sheehan, the knowledge economy sees knowledge as the key resource in economic activities.[36] Knowledge is seen as a resource that, like other goods and services, is integral to the economy's growth and competitiveness in economic sectors. The knowledge economy metaphor reflects the rhetoric of free markets, but knowledge circulation is not like a free market because agents cannot freely walk away from the influence of the dominant social imaginary, at least not all the time. Epistemic agents must engage with others as a condition of their humanity. It is not possible to be a knower, that is, to be human, without engaging in testimonial exchanges.

Fricker's reliance on the economy metaphor helps to explain why the social imagination, in her initial description, is conceived as one shared pool of resources rather than as a complex ecology of variously overlapping and differently accessible resources made possible by the society's social imaginaries. One of the four key pillars of the knowledge economy, considered to be its core elements, is "an adequate innovation

[35] Fricker's theory of epistemic injustice itself can be seen to fill a hermeneutical gap in the epistemic resources which "develops a better vocabulary and forum" for identifying and rectifying injustices which can be surreptitious. Fricker, *Epistemic Injustice*, 40.

[36] John Houghton and Peter Sheehan, "What is the Knowledge Economy?" in *A Primer on the Knowledge Economy*, (Melbourne, Australia: Centre for Strategic Economic Studies, 2000), 2.

system able to embrace the globalized knowledge stock, grasp it and adjust it to particular regional/local conditions."[37] The global economy mirrors the global social imagination, an insistence that there is only one set of epistemic resources that are shared by epistemic agents. This set or pool can have gaps, and more resources can be added to it, but there is in essence only one shared set. When there are gaps in this set, they limit and disadvantage all agents symmetrically.

In Fricker's work, the metaphor of the knowledge economy is bolstered by a social contract framing. Pohlhaus Jr. calls Fricker's lens of epistemic injustice a *social contract and coordinated ignorance lens*, which helps to explain some of the residual prejudices about how knowledge exchanges happen, and what an ideal knowledge exchange would look like for Fricker.[38] In this framing, a normative ideal is operative regarding human nature and epistemic agents. Agents are ideally equal and neutral participants who transmit and receive knowledge according to a social contract. In a reply to Fricker, Alcoff writes "What drives [Fricker's] notion of justice and virtue in regard to

> identity considerations is the aim of neutrality, that is, the aim of becoming inured to either unearned privilege or undeserved demerit, where one might learn to correctly and fairly assess when identity is truly relevant (because it confers a likely knowledge to the speaker) and to ignore it in all other cases.[39]

[37] Shahrazad Hadad, "Knowledge Economy: Characteristics and Dimensions," *Management Dynamics in the Knowledge Economy* 5, no. 2 (2017), 238.
[38] Pohlhaus, Jr., "Varieties of Epistemic Injustice, 15-20. Fricker does not use this description herself.
[39] Linda Martín Alcoff, "Epistemic Identities," *Book Symposium: Miranda Fricker's Epistemic Injustice: Power and the Ethics of Knowing*, in *Episteme* 7 no. 2 (2010): 134.

For Fricker, the end goal for epistemic justice is to level the playing field, to make the epistemic landscape one that is more equal and symmetrical, rather than embracing difference within the identities of differently situated persons, recognizing that an agent's epistemic location gives them unique epistemic resources that bear on their testimonial exchanges with others. This ideal, working towards the neutral solution of more equality and symmetry between agents, is not always possible or desirable. The metaphor of a knowledge economy sits uneasily with an analysis that focuses on epistemic location. It limits discussions about epistemic resistance and epistemic activism.[40] Difference needs to be embraced as a beneficial and necessary part of solidarity and coalitional politics that are able to resist or lessen oppression. It is worth staying with the trouble of thinking through how to lessen occurrences of epistemic injustice while the agents are asymmetrical in their epistemic authority (for example in exchanges between children and adults). Hadad explains that in a knowledge economy, "*educational systems* must aim at the formation of people able to contribute to the development of their own competencies, to integrate fully in the socio-cultural context in which they live."[41] But this is not what we want, as this reflects the significations of the epistemology of mastery; we want to develop agents who are reflexively critical about their situated identities and

[40] See José Medina, *The Epistemology of Resistance: Gender and Racial Oppression, Epistemic Injustice, and Resistant Imaginations* (Oxford: Oxford University Press, 2013) OUP for discussion on resistance and activism. See also José Medina, "Agential Epistemic Injustice and Collective Epistemic Resistance in the Criminal Justice System," *Social Epistemology* 35 no.2 (2021), 185-196 for a more recent discussion on epistemic activism and collective resistance to institutional epistemic injustices. Code discusses advocacy as a necessary component of epistemic activism towards lessening epistemic injustices in *Ecological Thinking.*

[41] Hadad, "Knowledge Economy," 204.

associated epistemic resources, including the social imaginaries upon which they draw, so that they become able to collectively challenge and change the structures and systems they are subjected to.

With the concept of the social imaginary elucidated by Castoriadis and Code, we now have reason to be critical of and therefore to move away from thinking about a knowledge/credibility economy (to echo Fricker) and instead move towards understanding meaning making as part of a knowledge ecology (ecosystem). The knowledge ecology reflects the fact that exchanges do not, even ideally, always happen symmetrically between equals. A knowledge ecology reimagines the epistemic landscape as one that is both cruel and kind; a complex, dynamic system which reflects the central significations of the social imaginary that have been instituted as well as instituting new, resistant, and resurgent significations that unsettle and challenge meanings. It is an open system that takes one's social or epistemic identity to itself be an epistemic resource upon which an agent draws when engaging in testimonial exchanges.

The social imaginary, though initially grounded in psychoanalysis, can offer some insights on the psychological mechanisms that may inhibit communication. Castoriadis's social imaginary emphatically rejects a closed set of theoretical options and significations in favor of an open and ever evolving symbolic system that he likens to the flow of magma.[42] This symbolic system influences the ways agents imagine themselves and others, through images, metaphors, and stereotypes. Agents invoke these symbols when

[42] Rosengren, "Magma," in *Cornelius Castoriadis: Key Concepts*, ed. Suzi Adams (New York: Bloomsbury, 2014), 65-74.

ascribing credibility to others with whom them interact. A society has its dominant instituted social imaginary which is challenged and changed by instituting powers. It also overlaps with resistant and resurgent imaginaries. It is within this complex ecosystem of resilient and yet dynamic epistemic systems that we are able to locate inquiry and testimonial exchanges, within the "rhetorical spaces where power operates."[43] Lorraine Code agrees with Fricker that stereotypes are heuristic aids, that the power of images and metaphors often work sub-doxastically to influence and shape our beliefs and actions. Judgments about an interlocutor's epistemic authority and correlative trustworthiness, including assessments of competence and sincerity, often happen quickly and unconsciously, which makes the phenomena better described as prejudices (pre-judgments) than judgments proper. Since these prejudices are accompanied by affective commitments, they can strongly influence behaviour even when they are incongruous with one's consciously held commitments. To ease the tension between consciously held beliefs and sub-doxastic commitments and accompanying affective investments, we should again turn to the social imaginary. When Fricker speaks of residual prejudices that shape an agent's actions in ways that are inconsistent with her explicit beliefs and commitments, we can supplement her discussion with insights about the social imaginary.[44] The resilient instituted imaginary currently sustains spurious generalizations about certain social identities that are less than empirically adequate. These generalizations are accompanied by images, metaphors, assumptions, expectations, etc.

[43] Code, "Epistemic Responsibility," 94.
[44] See Fricker, *Epistemic Injustice*, 34-36 for a discussion on residual prejudices.

that still carry great weight within the collective social imaginary, precisely because they accompany affective investments, and thus have the ability to influence how agents act within the society, even while the society has begun to adopt new forms through the critical-creative instituting imaginary.

The final point of contention centers around proffered remedies: not only does Fricker's solution aim for neutrality, but it also concentrates on individual remedies, such as cultivating intellectual virtues to counter epistemic injustices. This narrowing of focus is unnecessary and underwhelming as it reinforces the pseudo-rational signification of the desire to control found in the operative instituted social imaginary. It imagines agents as able to rectify injustices individually, and it suggests that it is primarily the responsibility of individual agents to do so. This solution abdicates the complexity of dealing with structural change or transformation, which cannot be left up to individuals acting alone, no matter how contextually sensitive they are or aim to be. An ecological analysis will look primarily to the systems and structures that make individual agency and action possible, and so an ecological solution to epistemic injustices will focus on structural and collective change rather than rely on individual changes.

Castoriadis's notion of the instituted social imaginary allows us to better understand the resiliency of epistemic systems, particularly the dominant (hegemonic) system of a society. As an organizational schema, the dominant social imaginary clusters together normative meanings, images, stereotypes, prejudices, affective responses, standards, expectations, and assumptions (for Castoriadis and later Code, the *habitus* and *ethos*) that are shared, collective (hermeneutical) resources upon which agents can and do draw in

order to "… internalize, affirm, challenge, or contest as they make sense of their place, responsibilities, options within a world, both social and physical …".[45] Remember that the instituted imaginary is correlated with a society's instituting imaginary, whereby collaborative and contestatory deliberation creates new epistemic resources in the form of new meanings, forms, directions, expectations and goals upon which agents can draw. This is the "… critical-creative activity of a society whose autonomy is apparent in its capacity to put itself in question."[46]

An Ecological Theory: Dotson's Epistemic Exclusions

If we accept that theories of epistemic injustice are enhanced by the concept of social imaginaries rather than a single common social imagination, or one shared pool of resources, then we can also begin to move beyond Fricker's dualist taxonomy of kinds of epistemic injustice. Kristie Dotson identifies a third kind of epistemic injustice which is not captured by testimonial injustice or hermeneutical injustice, which Fricker takes to be exhaustive categories. Dotson's third type is called contributory injustice, a type of epistemic injustice which incorporates insights about complicity within epistemic systems. Contributory injustice also problematizes Fricker's dichotomy between agential and structural operations of power.

[45] Code, "Epistemic Responsibility" in *The Routledge Handbook of Epistemic Injustice*, eds. Ian James Kidd, José Medina and Gaile Pohlhaus, Jr. (New York: Routledge, 2017), 95.
[46] Code, "Epistemic Responsibility," 95.

Contributory injustice is defined as "… the circumstance where an epistemic agent's willful hermeneutical ignorance in maintaining and utilizing structurally prejudiced hermeneutical resources thwarts a knower's ability to contribute to shared epistemic resources within a given epistemic community by compromising her epistemic agency."[47] It is easier to accept contributory injustice as a third kind of epistemic injustice once we admit that there are multiple epistemic systems each with a set of epistemic resources, rather than merely the dominant set. These systems can overlap to varying degrees, but not all epistemic resources are equally available to all groups.[48] Depending on one's epistemic location, an agent may partake and be influenced by more than just the dominant instituted social imaginary: there are resistant and resurgent social imaginaries that overlap with the dominant one. An example is the epistemology of ignorance, which identifies the operations of white supremacy of the dominant instituted social imaginary.[49] When a privileged interlocutor unfairly insists on only using the dominant set of significations and epistemic resources to interpret another's claims, they participate in a willful hermeneutical ignorance that makes it so the speaker cannot be heard, her claims cannot be appropriately taken up. This is not a gap in the shared pool of existing resources like hermeneutical injustices: contributory injustice describes cases where there are (at least some) epistemic resources available, but they are not considered

[47] Dotson, "A Cautionary Tale," 32.
[48] See Nora Berenstain, "Epistemic Exploitation," *Ergo: An Open Access Journal of Philosophy* 3, no. 22 (2016), 569-590, for a discussion of epistemic exploitation that marginalized groups face when considering availability and sharing of epistemic resources. See also Gaile Pohlhaus, Jr., "Epistemic Agency Under Oppression," *Philosophical Papers* 49, no. 2 (2020): 233-251.
[49] See Charles Mills, *The Racial Contract* (Ithaca, NY: Cornell University Press, 1997).

or utilized in interpreting the speaker's claims. The wronged speaker remains unpersuasive, unable to meaningfully contribute to knowledge production, which compromises her epistemic agency and constitutes an epistemic injustice. Agents perpetuating contributory injustice are not doing so intentionally or maliciously, and yet, they are culpable. As Pohlhaus, Jr. describes, "in such cases, the knower who commits the wrong may treat other knowers as competent and trustworthy. Moreover, the knower who commits the wrong may be open to adjusting and developing currently shared epistemic resources…".[50] But, a solution of simply adding missing hermeneutical resources to the one shared pool mischaracterizes the problem here. Contributory injustices do not fall neatly into agential or structural causes, it is a mixture of both, a grey area.[51]

Dotson developed the framework of epistemic exclusions to make space for the ever-present possibility of new kinds and experiences of epistemic oppression. Her framework introduces contributory injustice as a third type of epistemic exclusion that has both agential and structural elements. The theory also provides a radical reimagining of the shared pool of resources into the language of social imaginaries. Gaile Pohlhaus, Jr. calls Dotson's theory the *degree of change and/in epistemic systems lens* to show its connections to and departures from Fricker's theory of epistemic injustice. Moving to Dotson's framework draws attention to the formative role of epistemic systems or social imaginaries in cases of epistemic injustice; it also helps to formulate a response to the

[50] Pohlhaus, Jr., "Varieties of Epistemic Injustice," 20.
[51] Kristie Dotson, "'Thinking Familiar with the Interstitial': An Introduction," *Hypatia* 29, no. 1 (2014): 1-17.

tension mentioned earlier between individual and collective responsibilities in such cases (where, remember, agents are well-intentioned). By using Dotson's framing, we are better able to attend to the amalgam of agential and structural contributions to injustice as well as bridge the gap between individual and collective responses to those injustices.

Epistemic injustice involves the diminishment or denial of a group member's capacity to know, to participate in communicative and other knowledge practices, and/or to be persuasive in negotiations: deliberations, contestations and confirmations of meanings and meaning-making practices (both when using the epistemic resources and when discussing the adequacy or usefulness of epistemic resources). In other words, someone experiencing epistemic injustice experiences it as a form of epistemic exclusion. This an example of social powerlessness that is similar to Fricker's hermeneutical marginalization, called a face of oppression whenever persistent, widespread, and systematic.[52] Many experiences of epistemic exclusion are due to contingent social and historical factors which have sustained unequal and unjust power relations. Adopting the lens of epistemic exclusions redirects our focus from individual actions and agents towards the epistemic systems themselves, privileging systems and their influences over individuals in a reversal of the epistemology of mastery's typical hierarchy. According to Pohlhaus, Jr., "Dotson's account provides reason to refigure the field of epistemology insofar as her account brings attention to epistemic injustice as an ongoing contingent

[52] Fricker, *Epistemic Injustice*, 58. The term 'faces of oppression' is a nod to Iris Marion Young, "Five Faces of Oppression," in *Justice and the Politics of Difference* (Princeton, NJ: Princeton University Press, 1990), 39-65.

possibility, always to be determined in possibly new and unforeseen ways within any given social historical context, and not once and for all."[53]

According to Dotson, epistemic injustice involves epistemic exclusions of different orders or magnitudes. These exclusions cause personal and social inertia, not only compromising individual agency but also thwarting the proliferation and amelioration of social knowledge. Dotson recommends analyzing epistemic injustice through a scope of change perspective, where we look to identify the inertia caused by the exclusion and the corresponding level of social change necessary to address or rectify it, which increase by orders of magnitude. Dotson maps the levels of exclusion and requisite change onto the three types of epistemic injustice I described: testimonial, hermeneutical and contributory injustices. As we move through the levels of epistemic exclusion, the changes required become progressively more demanding. In fact, the requisite changes compound as we traverse orders of epistemic exclusion. Third order exclusions cause the most inertia and require the most radical change, but this change will only come about by addressing the problems of first and second-order exclusions as well. However, the three forms are distinct and attending to one will not automatically address the others. All three must be recognized as unique forms of epistemic exclusion, which is to say, types of epistemic oppression.

First-order exclusions include experiences of testimonial injustice. The speaker experiences an epistemic exclusion from interpersonal exchanges due to prejudicial

[53] Pohlhaus, Jr., "Varieties of Epistemic Injustice," 19.

stereotypes held by her interlocutor. This causes inertia within the agent's transactions, both practical and within her own self-confidence regarding her epistemic authority. It ruptures relations of epistemic trust. Addressing first-order exclusions requires demanding that the epistemic practices (and the institutions and agents that maintain these practices) do what they say they do. They must be held to account: one's behavior needs to change to reflect one's values. Instances of testimonial injustice are caused by unjust distributions of credibility – the agent harmed is attributed a credibility deficit based on stereotypes about the social group(s) of which the agent is a member. The rectification of the exclusion can be accomplished with the already established values of the epistemic system. In testimonial injustice, the value of credibility is not questioned, nor is it inadequate to address the problem – the problem here is limited to one of distribution. Genuinely democratic epistemic practices should do what they say they do – attribute credibility equitably. The social changes needed to address first-order exclusions tacitly reinforce the epistemic system while identifying problems within it. The epistemic resources are inefficient, but do not themselves need to be challenged.

Second-order exclusions exist when the shared resources are not just inefficient, but insufficient to capture an agent's experiences. Second-order exclusions can be mapped on to hermeneutical injustice. In Fricker's language, there are lacunae in the epistemic resources that are needed to interpret some agents' experiences. To address such an exclusion, the system and its resources need to be revised in some way. The values within the system need to be altered, or other values need to be added. The inertia here is structural in that it stops knowledge exchanges from operating properly. Because the

agent affected is not able to meaningfully participate, the structural inertia is compounded by the agential inertia with respect to self-image and trust. The system does not yet have the epistemic or hermeneutical resources but can accommodate new ones as they arise in various ways. This means to address second-order exclusions, the system itself must be recognized and then modified. There will of course be resistance to this modification, because of the resiliency of the dominant social imaginary. Second-order exclusions and hermeneutical injustices can be hard to detect, and most often will have a fairly low demand for change, because the dominant shared resources work well for many. Those agents for whom the resources do not work well cannot fully render their experiences as intelligible, so they have a very difficult task in convincing others there is a deficiency or insufficiency within the system. To address second-order exclusions, we must develop the ability to recognize when our epistemic resources need revision and execute those revisions. Rectifying second-order exclusions requires "… one be willing to change one's instituted social imaginaries and/or prevailing schemata.[54] Rectifying second-order exclusions might involve radical changes such as a conceptual revolution when we re-evaluate our resources and attempt to fill in the gaps. The instituting power of the social imaginary can generate new significations and new meanings that can unsettle the hegemony of the instituted imaginary.

Third-order exclusions can map instances of contributory injustice. As mentioned earlier, Dotson explains third-order exclusions by first denying a premise of Fricker's

[54] Dotson, "Conceptualizing Epistemic Oppression," 131.

framework: that there is only one closed epistemic system. Dotson instead starts from the premise that epistemic systems are open, and that there are in fact countercultures and alternative epistemic resources shared and used by different communities. Though some systems may only be utilized by a small community, and though the dominant social imaginary enjoys hegemonic status and exhibits immense resiliency in the face of change, acknowledging this multiplicity and open nature of epistemic systems allows us to describe contributory injustice as an epistemic injustice and as a third-order exclusion.

In instances of third-order exclusions, the privileged interlocutor practices willful hermeneutical ignorance because they rely upon the dominant set of shared epistemic resources even when circumstances suggest their inadequacy. Therefore, the supposed hearer cannot meaningfully hear the insights from someone who is interpreting experiences using a different set. The speaker, though her experience or knowledge is intelligible to her, is left unpersuasive in her contribution to knowledge production. This is an especially pernicious inertia faced by the speaker; when persistently faced with such exchanges, occurring across many social dimensions, it can cause issues with self-image and trust. It also causes inertia within the dynamism of the epistemic system or social imaginary because its epistemic resources are unable to capture and render intelligible the experiences of all its constituents. But third-order exclusions cannot be fixed merely by adding more resources or by modifying the dominant system. The resources are there, and yet they are worlds away. Dominantly situated agents cannot or will not access the requisite resources in the same way that marginalized agents can, by making use of significations from alternative or resistant social imaginaries. Third-order exclusions

require a different way of effecting change: "[a] third order change involves developing the capacity to recognize and alter elements of operative, instituted social imaginaries that inform and preserve organizational schemata."[55] A third-order exclusion is one wherein the system itself is inadequate to address the problem.

As an initial suggestion to resist third-order exclusions, Dotson recommends individual agents to develop a capacity to change between systems, shift between frameworks, and traverse interpretive horizons as necessary. One must learn to alternate between sets of resources, to recognize and distinguish between potentially incommensurable organizational schemas. Dotson argues that the change required to address third-order exclusions involves developing a capacity to 'world-travel,' to make meta-inquiries about what orients and governs the epistemic resources "…so as to change them or shift out of them entirely."[56] However, even this remedy seemingly focuses on individual responses, leaving us unclear on how to enact structural changes or collective resistance. While it would be well-advised for individual agents to attempt to listen more virtuously or be otherwise intellectually virtuous as an underlying individual disposition, individualized suggestions fall short of addressing oppressive structures.

There is one benefit to the capacity to world-travel over other intellectual virtues suggested by Fricker. World-travelling is a practice that requires intellectual virtues such as humility, open-mindedness, curiosity, and playfulness to develop a capacity to feel at

[55] Dotson, "Conceptualizing Epistemic Oppression," 119.
[56] Dotson, "Conceptualizing Epistemic Oppression," 131. 'World-travelling' is taken from Maria Lugones "Playfulness, 'World'-Travelling, and Loving Perception," *Hypatia* 2, No. 2 (1987), 3-19.

ease identifying various systems and their operative social imaginaries so as to be able to shift between them as necessary. When world-travelling, one does not try to get out of the system by searching for some Archimedean point or view from nowhere, instead one tries to develop a facility with travelling between systems. It helps agents to recognize their situated location and the dependency of knowers on others. These ideas are fundamentally at odds with the pseudo-rational significations of the epistemology of mastery; they are instantiations of the significations of ecological epistemology.

In order to world-travel, agents must become reflexive, able to recognize and accept their own situated epistemic location and the epistemic locations of others with which they are in community. These epistemic locations give agents partial and particular knowledge. Together, agents negotiate how that knowledge is taken up; they deliberate the meanings and significations that instantiate the social-epistemic imaginaries of their society. World-traveling cannot be practiced in isolation, though it is an individual capacity it must be developed and practiced in an epistemic community. It requires the apprenticeship and advocacy of others who are willing and able to share different social imaginaries and different epistemic resources without being exploited for the work. It is also an individual capacity that makes space for the social imaginary itself to become reflexive: to think of itself critically so as to create new (or adopt resurgent) significations and meanings and to challenge or resist the instituted significations that no longer serve the community. The concept of world-travelling thus serves to bridge the gap between individual and collective or structural responses to epistemic injustices.

World-travelling involves the ability to recognize features of epistemological systems and their function. It involves being able to shift between systems when one system is inadequate for the task at hand. World-travelling is not just a capacity that allows for the diagnosis of problems or identification of injustice, it is also for imagining futures – an ability to imagine otherwise. It is therefore an individual capacity that makes space for the instituting social imaginary to create new significations and meanings and challenge the instituted significations that no longer serve us, to open the space for transconceptual communication.[57] Agents will be better equipped to resist epistemic oppression because they recognize that epistemic systems "have the power not only to transform worlds, but to create them."[58]

Conclusion

In this chapter, I have laid out epistemic injustice as a theory helpful for discussing current issues in Ontario's public education system. Fricker's theory of epistemic injustice has much to offer an ecological analysis since it centers the importance of epistemic location and insists on the interdependence of knowers. It also has some limitations for an ecological analysis, namely in its description of the social imagination as a knowledge economy, one collective pool of hermeneutical resources rather than the more complex and pluralized social imaginaries. It also focuses on

[57] 'Transconceptual' communication is taken from Dotson, "On Limiting Epistemic Oppression," 35.
[58] Nora, Berenstain, Kristie Dotson, Julieta Paredes, Elena Ruíz, and Noenoe K. Silva, "Epistemic Oppression, Resistance, and Resurgence," *Contemporary Political Theory* 21, no. 2 (2022): 283. https://doi.org/10.1057/s41296-021-00483-z.

individual virtues as a solution rather than working to engage with the epistemic systems themselves.

Dotson's theory of epistemic exclusions explains epistemic injustice using a degree of change and/in epistemic systems lens. Dotson's lens focuses our attention first on the epistemic landscape itself, the epistemic systems or social imaginaries in which agents are situated. Dotson's theory explains ways that epistemic exclusions cause personal and social inertia and addresses the kinds of social changes needed to address the inertia. One solution for the most pernicious type of epistemic exclusions (third-order exclusions), according to Dotson, is for individual agents to develop a capacity to world-travel, to change between systems, shift between frameworks, and traverse interpretive horizons as necessary. Agents must learn to alternate between sets of resources, to recognize and distinguish between potentially incommensurable organizational schemata. More than being an individual capability that allows one to identify injustices, world-travelling also cultivates the imagining of radically different futures: it is the capacity to imagine otherwise. Recognizing and embracing others' differences, not just in identities, not just in words, but in worlds, allows for the development of solidarity and coalitional politics which can serve to lessen epistemic exclusions. To world-travel, agents must become reflexive, which requires recognition and acceptance of one's own situated epistemic location and resultant partial knowing. They must also recognize and accept the epistemic location of others with whom they are in community, and the social nature of negotiating knowledge together, including navigation of the meanings and significations that instantiate the social imaginaries of their society, both dominant or instituted

significations and resistant or instituting significations. Though described as an individual capacity, it can open the channels for transconceptual communication, making space for social imaginaries to become self-reflexive: to recognize the imaginary nature of central significations and to create new or adopt resurgent significations and meanings and to challenge or resist the instituted significations that no longer serve the community. The concept of world-travelling thus serves to bridge the gap between individual and collective or structural responses to epistemic injustices.

In the final chapter, I will apply Dotson's framework of epistemic exclusions to examples within Ontario's institution of public education. Can an institution like Ontario's public education system develop the self-reflexive disposition in order to world-travel? If as a goal it seeks to reduce epistemic injustices that occur in its hallways and classrooms, then the system itself needs to become critically reflexive. Interrogating the ways that the epistemology of mastery has influenced policies and has limited substantial changes is one way for the institution to develop this quality. Another is to look at the actual negative effects that the central significations have had on students subjected to the system. We shall look at examples of each of the three forms of epistemic exclusions found in Ontario public schools.

Chapter Four: Epistemic Exclusions in Ontario's Institution of Education

I. Introduction
II. Children and epistemic agency
III. Epistemic exclusions and children
IV. Epistemic exclusions of Indigenous children
V. Conclusion

Introduction

Public schools are curated sites of learning.[1] This means that the institutions' spaces, both physical and rhetorical, have been intentionally designed to fulfil a purpose. Epistemic resources made available in these spaces are carefully chosen. In Ontario, public schools are formal institutions that purport to teach students (most of them children) to be personally successful, economically productive, and actively engaged citizens. This is done by teaching a shared set of epistemic resources through which students can decipher the world around them and interpret their experiences in the world by means of those resources, and successfully share those interpretations with others. In other words, a school is a place where students cultivate and practice the capacities of an epistemic agent. This description tracks the 'common-sense' or instituted ways of

[1] David Stroupe, "Naming and Disrupting Epistemic Injustice Across Curated Sites of Learning," *Journal of the Learning Sciences* 31, no. 2, 2021, https://doi.org/10.1080/10508406.2021.1977647.Stroupe argues that the places and built structures of schools themselves reflect/embody "the explicit and implicit messages about knowing and knowledge production that people with power wish future generations of participants to learn" (1). See also Thomas M. Philip and Pratim Sengupta, "Theories of Learning as Theories of Society: A Contrapuntal Approach to Expanding Disciplinary Authenticity in Computing," *Journal of the Learning Sciences* 30, no. 2 (2020): 330-349.

thinking about the formal education of children and provides a justificatory rationale for the paternalism that often accompanies such education. A society wants to share with or bestow upon children its best set of epistemic resources, and those resources need to be relatively stable so that the children can use them to navigate their world with ease and communicate their experiences of that world to others in their epistemic communities. This gives a positive reason for a stable, resilient, and relatively fixed epistemic system, a rationale that reflects the values of the epistemology of mastery. Calling attention to the role of the social imaginary explains how institutions of education both draw upon and reinforce the dominant, operative instituted social imaginary: to re-establish and reinstitute best practices so as to conserve a community's identity, its habitus and ethos. Raymond Williams describes education's processes of socialization as incorporation.[2] Teaching the next generation established best practices ties necessary learning to a selected range of meanings, values, and practices. However, the curated choices are in fact a particular selection from the whole available range, and they most often reflect the interests of the dominant or privileged groups in that society. The insistence that there is only one epistemic system (which, in our society, is the epistemology of mastery) leads to some agents being excluded from meaningful participation in their epistemic communities. That is, it restricts epistemic agency, especially when the epistemic resources agents use do not fit with the dominant set.

[2] Raymond Williams, "Traditions, institutions and Formations" in *Marxism and Literature* (Oxford: Oxford University Press, 1977), 117-118.

I have argued in previous chapters that there are multiple and overlapping social imaginaries within one society rather than only one shared pool of epistemic resources. Counter-cultural or resistant social imaginaries often overlap to varying degrees with the instituted social imaginary but provide communities with potentially radically different ways of understanding themselves and their world. Social imaginaries are instantiated by epistemic systems. The epistemology of mastery reflects instituted power, and ecological epistemology is an instantiation of instituting power, the critical-creative capacity a society has to question and challenge its own epistemic systems and organizing principles. An epistemic system organizes or governs habits of cognition as well as attitudes and sensibilities. Institutions are loci where the organizing schemas of epistemic systems are explicit, a place where one can analyze what is encouraged, rewarded, permissible, prohibited, or discouraged in daily practice.

In this chapter, I will practically apply the insights that we have learned about the instituted social imaginary's epistemology of mastery and its successor, ecological epistemology, to explore ways that children's epistemic agency is limited or restricted by an unrelenting insistence on the hegemony of the epistemology of mastery. Children's epistemic agency is limited when faced with experiences of epistemic exclusions while under the purview of systems of public education. In keeping with an ecological analysis which is responsive to local particularities, I will focus on Ontario's institution of public education. I will draw on Kristie Dotson's theory of epistemic exclusions which makes use of a *degree of change and/in epistemic systems lens* to describe these effects. Doing

so will further highlight problematic consequences of the epistemology of mastery and help to make a case for moving towards ecological thinking.

For the case study, I will identify examples of first, second, and third-order exclusions that students may face while under the purview of Ontario's institution of education. I begin with a general discussion on children's epistemic agency and epistemic exclusions that any child may face in virtue of their being a member of the social identity category 'children.' It is an identity that is often processed through an adultcentric prejudice, which stereotypes children as unfinished adults and is used to justify a paternalistic attitude which hinders epistemic agency.[3] My contention is that the identity prejudices unfairly stereotype children in light of their perceived vulnerability, while in fact all humans, adults and children alike, are epistemically dependent on others and vulnerable (albeit differently vulnerable). This is clear through the ecological signification of co-constitutive relationality: all agency is indebted to others. When it comes to children's epistemic agency, there is little reason to systematically pre-judge that children are not competent testifiers deserving of trust and more accurate credibility attributions. Children are part of our epistemic communities; they also negotiate the meanings of symbols, significations, and organizing epistemic systems.

To end the chapter, I will center a set of examples of epistemic exclusions that Indigenous children have experienced in Ontario's public schools. I hope that by doing so

[3] For a discussion on adultcentrism, see Christopher G. Petr, "Adultcentrism in Practice with Children," *Families in Society* 73, no. 7 (1992): 408-416. For an argument against the view of children as unfinished adults, see Anca Gheaus, "Unfinished Adults and Defective Children: On the Nature and Value of Childhood," *Journal of Ethics & Social Philosophy* 9, no.1 (2015): 1-21.

it will bring the issues of epistemic agency into stark relief, since it is now well-known and respected that First Peoples in Canada have significantly different and often incommensurable ways of knowing, ways of making and sharing meanings. Their social imaginaries may overlap less with the dominant instituted imaginary than those of other communities. For example, Opaskwayak Cree scholar Shawn Wilson describes Indigenous ontology and epistemology as "…based upon a process of relationships that form a mutual reality" and that these relationships are with all of creation, not just other people.[4] Indigenous epistemology reflects systems of knowledge that center and prioritize the relationships between things rather than the things themselves.[5] In this organization, Indigenous epistemic systems radically differ from the ensemblistic-identitary logic of the dominant operative social imaginary in Canada. Because Indigenous social imaginaries differ significantly from the dominant instituted social imaginary, centering their experiences in Ontario's schools will allow us to more easily see how the hegemonic status of the dominant social imaginary (with its accompanying epistemology of mastery) creates the conditions in which epistemic exclusions occur, even when everyone is well-intentioned and trying their best, such as those working to better Ontario's institution of public education.

[4] Shawn Wilson, *Research is Ceremony: Indigenous Research Methods,* (Black Point, Nova Scotia: Fernwood Publishing, 2008), 73. Wilson acknowledges that Indigenous groups are heterogeneous in themselves and do not all subscribe to the same social imaginary. These insights about ontology and epistemology are what he has found to be commonalities between groups.
[5] Wilson, *Research is Ceremony,* 74.

Children and Epistemic Agency

Kristie Dotson describes epistemic agency as "… the ability to utilize persuasively shared epistemic resources within a given epistemic community in order to participate in knowledge production and, if required, the revision of those same resources."[6] Agents exercise their agency within epistemic systems, which are complex organizational schemas that organize (in a normative sense) epistemic resources, including cognitive habits, attitudes and sensibilities, norms and conventions, and expectations and sanctions, which then become instantiated in institutions and in material resources.[7] While epistemic agents are typically conceived to be adults, it is conceivable for school-aged children to also be epistemic agents. This expansion of the concept to apply equally to children reflects the ecological significations of situated epistemic location, which confirms that all agents, adult and child alike, have partial knowledge due to their particular situatedness, and of co-constitutive relationality, which maintains that agency is only possible in a community with others. A community of knowers and a shared set of epistemic resources is a precondition for epistemic agency.

Although there are ongoing philosophical debates on the topic, when interpreted through the epistemology of mastery, children are often seen as 'unfinished adults,' existing at a lower stage of development.[8] They are considered to be "not fully formed

[6] Dotson, "A Cautionary Tale," 24. See also Dotson, "Conceptualizing Epistemic Oppression," 115.
[7] Dotson, "Conceptualizing Epistemic Oppression," 121.
[8] Gheaus, "Unfinished Adults," 1-2.

agents."[9] Anca Gheaus argues against this view, stating that both adults and children are intrinsically valuable kinds of human beings. One reason that children are thought to be 'not fully formed agents' is because of how vulnerable they are perceived to be. The image of children's vulnerability stems from a recognized dependency children have on others to help satisfy their basic needs, but it is not at all clear that fully formed agents are invulnerable, nor that all children are equally vulnerable. This is especially unclear with regards to epistemic agency. Vulnerability has been characterized by Mianna Lotz both as a "universal, inherent and ontological feature of human beings and lives" and as a "function of contingent, situational and circumstantial features and conditions of a person's life."[10] Lotz argues that these two characterizations are in fact compatible with each other. This dualistic framing of vulnerability is compatible with the ecological significations of co-constitutive relationality and situated epistemic location. It is through relations that humans become the agents they perceive themselves to be. Epistemically, they are born into a world that is already codified through collectively chosen significations of social imaginaries. One comes to know these significations and the resources they inform though the epistemic communities of which the agent is a part. This makes all agents vulnerable and (inter)dependent on others. However, because agents have diverse identities and relationships to others, to the world, and to operations of power within a society, they are situated differently in the epistemic landscape and

[9] Anthony Skelton, "Children and Well-Being," in *The Routledge Handbook of the Philosophy of Childhood and Children*, edited by Gideon Calder, Anca Gheaus, and Jurgen de Wispelaere, (London: Routledge, 2019), 91.
[10] Mianna Lotz, "The Vulnerable Child," in *The Routledge Handbook of the Philosophy of Childhood and* Children, edited by Gideon Calder, Anca Gheaus, and Jurgen de Wispelaere (London: Routledge, 2019), 305.

thereby have distinct and particular vulnerabilities which arise from that location. Epistemically, children's vulnerability is much more akin to the universal feature of the human condition since knowledge and epistemic agency depends on coordination with others.

Attending to the shaping powers of epistemic systems, Dotson's *degree of change and/in epistemic systems* lens of epistemic injustice recharacterizes epistemic injustices as types of exclusions that agents may face. These exclusions cause inertia to the agents and to the epistemic systems in which they take place. She describes three distinct orders, arguing that each requires different kinds of change in order to move from injustice to justice. The three forms are distinct such that addressing one will not automatically address the others: "Unless one attends to the demands of each form specifically, one runs the risk of perpetrating epistemic oppression."[11] This is because epistemic oppression is multifaceted and cannot be rectified with just one or a few simple countermeasures. Dotson warns us that even when actively trying to address and rectify epistemic exclusions, there are always possibilities for their (re)occurrence, and therefore ongoing assessment of both agential and structural behaviour is necessary.

First-order exclusions include testimonial injustices. To address these exclusions, agents must work to ensure that the values and functions of a group are performing as they are intended to. For example, to address testimonial injustices we need to correct the dysfunctional patterns of credibility attribution, rather than question or challenge

[11] Dotson, "A Cautionary Tale", 36.

credibility as a value. Second-order exclusions include hermeneutical injustices, which are caused by structural prejudices. Structural-identity prejudices (as opposed to a negative-identity prejudicial stereotype) involve having epistemic resources "become discriminatory due to an asymmetrical ability of some groups to affect the ways in which a given society makes sense of the world."[12] To address structural prejudices, we should engage in conscious modification of the hermeneutical or epistemic resources. Although adding more resources can help to fill gaps, this is not always the best or only solution. We must also open the structures, the frameworks and organizing schemas of those resources, to revision so as to intervene on the effects of prejudices more effectively. Third-order exclusions include contributory injustices, which is a kind of epistemic injustice that is caused by willful hermeneutical ignorance. It involves an agent being ignorant of other social imaginaries and alternative significations, causing her to maintain and use only the structurally prejudiced hermeneutical resources in situations where they are inadequate. Her situated ignorance leads to her insistence on the ubiquity of the dominant, instituted social imaginary which contains resources which are structurally prejudiced and inapt for the interaction with relevantly different others. This causes a different kind of harm than that of second-order exclusions (hermeneutical injustices) insofar as the wronged agent's proffered knowledge is intelligible to her and to others in her epistemic communities, but that these experiences "…generally fail to gain appropriate uptake according to the biased hermeneutical resources utilized by the

[12] Dotson, "A Cautionary Tale," 29.

perceiver."[13] To address third-order exclusions, agents need to become more aware of alternate sets of hermeneutical resources, or different organizing schemas from other social imaginaries, and then work to develop a fluency in these alternatives. Dotson calls this kind of a change a developing ability in transconceptual communication, or a capacity for world-travelling. As argued in Chapter Three, world-travelling is a virtue that bridges agential and structural responses to epistemic exclusions. We can find examples of all three kinds of epistemic exclusions in Ontario's public schools, which is where I turn to now.

Epistemic Exclusions and Children

Children, despite being seen as vulnerable and in need of protection, are not safeguarded from identity-prejudices, including negative stereotypes about their capabilities. Often children are seen as deficient adults and judged according to an adultcentric point of view. Stereotypes that adults hold (whether consciously or sub-doxastically) can influence their interactions with particular children, including potentially attributing a credibility deficit to that child. This would be an example of a first-order exclusion. The child is prevented from effectively communicating her perspective or her knowledge in the interaction. Some of the controlling images of children include being especially vulnerable and dependent on others; they are thought to be still developing autonomy and are therefore not fully autonomous epistemic agents like adults. Children are imagined to be unable or less able to make good decisions for

[13] Dotson, "A Cautionary Tale," 32.

themselves; they are said to be in need of guidance from other, more autonomous (adult) agents who justifiably practice paternalism towards them in the child's best interests. Weak paternalism is justified through the credibility deficit attributed to children thanks to the stereotypes adults use to understand them. These controlling images can lead to experiences of first-order exclusions, because they affect considerations of how and when credibility should be conferred. In Ontario public schools, these stereotypes can cause dysfunctional interactions between children and their peers, teachers, administrators, or other adult parties.

Adults (including caregivers, teachers, and other authority figures) are privileged in their epistemic authority in relation to children, so they must make a conscious effort to extend credibility to children, to commit to trusting more in the testimony of children. This needed change can be justified by the instituting commitments to situated epistemic location and relationality, recognizing that all epistemic agents are situated knowers, bringing their situated epistemic location with them to any inquiry. Children are not *tabulae rasae*, and their very situatedness may give them valuable and unique insights that enrich their epistemic communities.

A recent example of an Ontario school board responding to a first-order exclusion comes from a situation where a parent questioned Waterloo Region District School Board (WRDSB) practices of asking students to self-identify according to various social identity categories (anonymously, in a survey where answers are aggregated, and where parents had the option to opt-out of the data-collection). The purported reason for collecting self-identifying information is, according to the board, to abide by the mandate arising from

Ontario's *Anti-Racism Act*: "The answers we receive give us a deeper understanding of the cultural, social and demographic makeup of WRDSB students, ultimately allowing us to ensure our system serves their needs as they learn, develop and grow to their fullest potential."[14] The parent was upset because they did not want the board asking children about their sexual orientation, calling the board's practices a form of child abuse. The school board's open letter response reaffirms that students' credibility is sufficient to take their self-identifications seriously, even at younger ages.[15] This is a positive response from the board and can serve as an exemplar for how to respond adequately to first-order exclusions.[16] Because such a response involves only first-order changes regarding how the shared value of credibility is distributed, rather than any questioning of the structures of the epistemic system, this is an easier epistemic exclusion for the school board to address. It is an example of the institution practicing testimonial justice in response to the dysfunctional credibility attribution by the parent.[17]

Second-order exclusions that children experience are due to gaps in hermeneutical resources that would allow them to make their experiences intelligible to themselves and/or to others. Some children cannot adequately articulate their experiences, not

[14] Waterloo Region District School Board, "An Open Letter in Response to WRDSB Parent Concerns," January 20, 2023, https://www.wrdsb.ca/blog/2023/01/20/an-open-letter-in-response-to-wrdsb-parent-concerns/.
[15] Waterloo Region District School Board, "An Open Letter in Response to WRDSB Parent Concerns," January 20, 2023, https://www.wrdsb.ca/blog/2023/01/20/an-open-letter-in-response-to-wrdsb-parent-concerns/.
[16] The board's open letter was not well-received by all in the community, including several trustees who dissented to its release. See "Letter addressing accusations of child abuse discussed at public school board meeting (update)," *City News*, Kitchener, https://kitchener.citynews.ca/local-news/letter-addressing-accusations-of-child-abuse-discussed-at-public-school-board-meeting-6425171.
[17] See Miranda Fricker, "Can There Be Institutional Virtues?" *Oxford Studies in Epistemology* 3 (2010): 235-252.

because of their age, but because there are structural prejudices that affect the valuation and development of epistemic resources, which end up, over time, prioritizing and thus reflecting some (privileged) groups' experiences at the exclusion of others. We must resist the homogenization of members of the social identity 'children'. 'Children' as a category is composed of diverse and heterogeneous members. In Ontario's institution of education, despite an explicit commitment to equity and well-being, not everyone who goes to school finds themselves or their loved ones reflected in their learning in the same way. Even though there is a commitment to diversity in representation at the policy level, it does not always translate to diversity of significations or epistemic/hermeneutical resources. Some children may even be inadvertently exposed to harmful stereotypes about their identities or their culture in resources purported to be for learning.[18] When epistemic resources reflect the biases of the dominant social imaginary, they are insufficient resources because they do not provide adequate space for other ways of knowing. Structural identity-prejudices in the form of biased epistemic resources cause second-order exclusions which further stratify inequalities and can cause harm.

An example of a second-order exclusion that some children face focuses on school libraries. Libraries present material resources with which students learn. An analysis of the books, technologies, etc. found within a library (and, importantly, which are missing from the library) may disclose gaps in the hermeneutical resources that hinder a child

[18] This is an ongoing risk despite the existence of the Ministry of Education's 2008 *Guidelines for Approval of Textbooks* in Ontario schools. The Ministry has an approved Trillium List for provincially approved textbooks, while supplementary materials are evaluated by local school boards.

from developing a capacity to interpret and articulate their experiences. Addressing such a second-order exclusion will involve modifying and adding to the set of shared resources. Making diverse sets of resources available to children involves ongoing reflection and accountability, a willingness to challenge and revise the system whenever it is found to be insufficient. Luckily, as a curated site of learning, we can also employ first-order changes to hold institutions to account: to make the schools' (and libraries') behaviour (i.e., what it provides) match its purported values (to be a support for all community members). School boards are responsible for choosing supplementary materials that are available to their students, including library books. Waterloo Region District School Board (WRDSB) cites the Ministry's 2008 *Guidelines for Approval of Textbooks* but has also created their own metric, which involves library professionals using the CREW method (Continuous Review, Evaluation, and Weeding) "to cull outdated materials, or those which are no longer useful to those who access the library."[19] To determine which books are 'no longer useful,' the board's representatives follow the MUSTIE criteria, which further elaborates on the practices of the CREW method, with specific regard to W (Weeding): books which are Misleading / Ugly / Superseded / Trivial / Irrelevant / Elsewhere are eligible to be weeded. Having standard criteria to follow bodes well for transparency and institutional accountability, but there is still some ambiguity with regards to what is imagined to be Trivial or Irrelevant to students, and if

[19] Waterloo Region District School Board, "Library Collection Review Process," accessed January 23, 2023, https://llc.wrdsb.ca/about/library-ethics-and-principles/library-collection-review-process/.
See also Government of Ontario, Ministry of Education, *Guidelines for Approval of Textbooks*, (PDF, Queen's Printer for Ontario, 2008), https://files.ontario.ca/edu-guidelines-approval-textbooks-en-2023-01-10.pdf.

those criteria are instantiated by the epistemology of mastery, then the library may unintentionally re-institute prejudiced or otherwise insufficient resources. One way to supplement the criteria would be to reaffirm the credibility of children as competent epistemic agents by involving them in decisions and negotiations about library materials.

Third-order exclusions happen when interlocutors are unwilling or unable to interpret a child's experiences according to alternative epistemic resources, and so the child's proffered contribution to knowledge is unpersuasive in the totalizing force of the dominant social imaginary. The agents need not maliciously deny the contribution, they are either not able or not good at transconceptual communication. The lack of capacity to world-travel is due to a lack of self-reflexive awareness of one's own situated epistemic location combined with a lack of awareness of epistemic systems and how they shape our communicative practices with others.

A literary example of contributory injustice faced by a child is found in Antoine de Saint-Exupéry's *The Little Prince*.[20] At the start of the novel, the protagonist draws a boa constrictor after reading about them in a history book. When he shows this drawing to 'the grown-ups,' 'the big people,' he asks if it inspires fear in them. They respond, "why would a drawing of a hat inspire fear?" The drawing is not of a hat, but of a boa constrictor who had just eaten, and was now digesting, an elephant. He then draws the second drawing, showing the insides of the boa. The grown-ups tell him to stop wasting time drawing boa constrictors and to interest himself in geography, history, arithmetic,

[20] Thanks to my colleague Isaac Jiang for introducing me to this example.

and grammar instead. The child laments that as a result of this, he gives up a magnificent career as a painter at only six years of age. "I had been discouraged by the failure of my drawing number 1 and drawing number 2. Adults never understand anything on their own, and it is tiring for children to always and always give them explanations."[21]

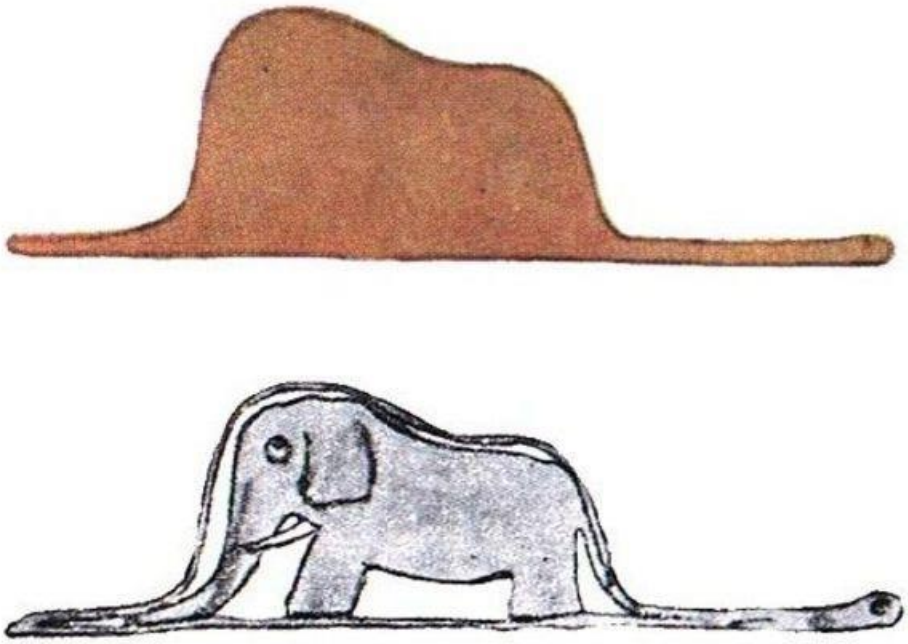

Fig. 3 *A Boa Eating an Elephant* (Antoine de Saint-Exupéry, *Le Petit Prince*, Éditions Gallimard, 1999, 13)

This example points to a willful hermeneutical ignorance demonstrated by the adults in the story. It is not the case that the boy lacks epistemic resources to share his experiences, but rather that those with whom he communicates are unwilling to shift their

[21] Saint-Exupéry, Antoine de. *Le Petit Prince* (Éditions Gallimard, 1999), 13-14, https://www.cmls.polytechnique.fr/perso/tringali/documents/st_exupery_le_petit_prince.pdf. Translation my own.

framework or move beyond the dominant interpretive resources to meet the boy where he is. The adult clings to the dominant set of resources, so the child is not taken seriously. The lack of uptake is a contributory injustice, and so is a third order exclusion that children might face within educational institutions. In this case, the child is left in a situation whereby the only opportunity by which to be heard at all is to mischaracterize his own experience by attempting to translate it into the dominant set of shared epistemic resources. The translation is not adequate, and by his own admission, it is exhausting work.

Rather than staying stuck in this problem of mis- or un-translatability, Dotson employs Maria Lugones' concept of world-travelling as a capacity able to address and begin to rectify third-order exclusions. Dotson recommends the development of a capacity to world-travel as a way to mitigate third-order exclusions. This capacity is beneficial for both children and (comparatively privileged) adults to develop. World-travelling is an individual capacity, but it cannot be developed independently or practiced in isolation. It is community based, insofar as an epistemic community must apprentice the perceiver to share different worlds, different sets of hermeneutical resources, alternative frameworks, and resistant and resurgent significations from various social imaginaries. This requires relationships of trust. It is also a capacity that must be developed over time and continually exercised to stay apt: "Even if the space for transconceptual communication has been opened, which is by no means easy, as mentioned earlier, it could literally take decades to become truly fluent in an alternative

set of hermeneutical resources."[22] This needed capacity puts adults and children on a more equal playing field in regards to learning multiple sets of resources, and so confirms that children really do have epistemic agency that is worth taking seriously. Children are an integral component of an epistemic community.

Epistemic Exclusions Experienced by Indigenous Children

Though children as a social group are situated differently than adults, including in their prudential dependencies and vulnerabilities, we must also affirm that 'children' form a heterogeneous group and are not a monolithic category. While all epistemic agents, child and adult, are vulnerable and dependent on others for their epistemic agency, particular epistemic locations also position some agents to be uniquely vulnerable to epistemic harms. Not all children are excluded equally. In Ontario's public schools, this applies to physical exclusions, since "racialized students, Indigenous students, students with disabilities, and students with special education needs are overrepresented in the data on suspensions and expulsions" as much as it does distinctly epistemic exclusions, which prevent agents from meaningful participation in the creation and negotiation of epistemic resources.[23] As mentioned in Chapter Two, the ministry identifies Indigenous students as one group that is disadvantaged by ongoing performance gaps compared to their non-Indigenous peers.

[22] Dotson, "A Cautionary Tale," 35.
[23] Government of Ontario, *Ontario's Education Equity Action Plan,* (PDF, Queen's Printer for Ontario, 2017), 16.

In this section I will identify examples of epistemic exclusions that Indigenous students may face. In 2007, the Ontario FNMI education policy framework suggested that "the overriding issues affecting Aboriginal student achievement are a lack of awareness among teachers of the particular learning styles of Aboriginal students, and a lack of understanding within schools and school boards of First Nation, Metis, and Inuit cultures, histories, and perspectives."[24] The institution has identified a lack of awareness of alternatives, but they neglect to mention a lack of self-reflexive awareness regarding the limitations of the hegemonic epistemology of mastery. Inclusion alone, in the form of adding more diverse epistemic resources, is not enough without deeper connection with and re-evaluation and/or modification of epistemic systems, including a commitment to developing a capacity for world-travelling between incommensurable systems.

First-order exclusions that Indigenous students experience within educational institutions involve unwarranted credibility deficits attributed to them in virtue of their membership in a particular social group, whether that be their specific band or captured under umbrella terms such as FNMI or Indigenous. When negative stereotypes manifest as prejudices, even if they are residual prejudices that run counter to consciously declared beliefs, then the accompanying negative affective investment and resultant credibility deficits attributed can lead to unjust testimonial exchanges within schools. Indigenous children face entrenched and harmful stereotypes that settlers hold about First Peoples:

[24] Government of Ontario, Ministry of Education, Aboriginal Education Office, *First Nation, Métis, and Inuit Education Policy Framework (*PDF, Queen's Printer of Ontario, 2007), 6. https://files.ontario.ca/edu-ontario-first-nation-metis-inuit-education-policy-framework-2007-en-2021-10-29.pdf

for example, they have been variously characterized as barbarian/savage, uncivilized, and lazy.[25] These stereotypes are rooted in racist beliefs about the worth of Indigenous peoples which are accompanied by affective investments and are resistant to counter-evidence. Even though these are empirically inaccurate and harmful stereotypes that may not even be consciously endorsed beliefs, the residual prejudices remain in the instituted social imaginary and can alter peoples' interactions with others in this group. When an interlocutor makes credibility assessments about an Indigenous child based on collective stereotypes, the assessment may also reflect assumptions about children based on factors such as age, income, and ability in addition to Indigeneity. For Indigenous students, this erroneously attributed credibility deficit is compounded by a paternalism enacted towards all children, who are constructed as unfinished adults, lacking full epistemic agency.

The Ontario Human Rights Commission's "Right to Read Inquiry Report: First Nations, Métis and Inuit Experiences," details recent instances of racism experienced by First Nations youth and how it impacts their interactions in public school. In the 2016 *Seven Youth Inquest*, a coroner's inquest into the deaths of Reggie Bushie, Jethro Anderson, Jordan Wabasse, Kyle Morrisseau, Curran Strang, Paul Panacheese and Robyn Harper, students from Nishnawbe Aski Nation who died between 2000 and 2011 when attending Dennis Franklin Cromarty High School in Thunder Bay, Ontario, testimony from witnesses confirm:

[25] See Arlene Hirschfelder and Paulette F. Molin, "I is for Ignoble: Stereotyping Native Americans," February 20, 2018, https://www.ferris.edu/HTMLS/news/jimcrow/native/homepage.htm.

> Racism is often directed against First Nations people when they are off-reserve. Many witnesses spoke of experiences like being called a "stupid savage" or told "Indians go home." As one witness put it, "They treat me like something, not someone." Dennis Franklin Cromarty High School students report that they routinely experience verbal abuse and objects thrown at them as they walk on city streets. Serious violence, including assault and murder, are known to have occurred.[26]

Racism, both explicit and implicit, impacts students and their experiences of public school. Experiences of negative-prejudicial identity stereotypes, whether coming from teachers and leaders, peers, or the broader community, can negatively affect the student and can constitute epistemic violence. If we are to rectify this first-order exclusion, then we need to address the inefficiencies of the resources available within the operative social imaginary. This mirrors the changes needed to address instances of testimonial injustice – a recognition of the harms of identity-prejudicial stereotypes (i.e., recognizing that adults are also vulnerable, dependent beings; and that First Peoples are resourceful and intrinsically valuable) accompanied by intentional redistribution of credibility attributions.

Second-order exclusions are those exclusions that stem from prejudiced structures or prejudiced epistemic resources. An example of a prejudiced educational resource found in Ontario's education system includes a worksheet given to a junior kindergarten class at St. David's Public School (within the District School Board of Niagara - DSBN)

[26] Canada, Chief Coroner's Office, *Inquest into the deaths of Seven First Nations Youths: Jethro Anderson, Reggie Bushie, Robyn Harper. Kyle Morrisseau, Paul Panacheese, Curran Strang, Jordan Wabasse* (Thunder Bay: Verdict Explanation, 2016), quoted in Ontario Human Rights Commission, *Right to Read Inquiry Report*, 2022, https://www.ohrc.on.ca/en/right-to-read-inquiry-report/first-nations-métis-inuit-experiences. Dennis Franklin Cromarty High School is a federally funded First Nations school which is not under the jurisdiction of Ontario's Ministry of Education.

in September 2022 that depicted two cartoon children in stereotypical Indigenous clothing, including feathered headbands.[27] The worksheet called the children 'Indians,' a term with a racist history. Tracee Smith, member of the Missanabie Cree First Nation and parent of a child given this worksheet reiterated "We still have teachers using this material and not realizing how hurtful it can be … You'll hear the term 'Indian' used in very racist, hurtful ways from mostly non-Indigenous people, from the past."[28] To the credit of the District School Board of Niagara and St. David's Public School, the incident was investigated, the teacher involved was disciplined, and all the materials used for that particular grade were audited. They also sent out an email to parents, apologizing for the incident.

Lest we think the aforementioned example was a one-off incident, a matter of poor judgment by the teacher, let us turn to bigger structures and systems that are prejudiced. Indigenous students can be particularly disadvantaged by longstanding structural prejudices in education. Despite numerous governing structures claiming to support the decolonization of (Ontario) education, guided by the Canada's Truth and Reconciliation Commission's (TRC) calls to action about education, there are still many material improvements to be made. 11 of the TRC's 94 calls to action bear directly on education. Indigenous watchdog Douglas Sinclair says in a 2022 interview that "Of the

[27] Cara Nickerson, "Indigenous Student Sent Home with 'Offensive' Worksheet, Prompting Audit at Niagara School," *CBC News*, Hamilton, September 23, 2022, https://www.cbc.ca/news/canada/hamilton/racist-worksheet-niagara-indigenous-1.6591745.

[28] Cara Nickerson, "Indigenous Student Sent Home with 'Offensive' Worksheet, Prompting Audit at Niagara School," *CBC News*, Hamilton, September 23, 2022, https://www.cbc.ca/news/canada/hamilton/racist-worksheet-niagara-indigenous-1.6591745.

11 Education Calls, three have not started, four have stalled, and only four are actually in progress."[29] More than just material changes need to be made: changes to the epistemic resources are needed in order to change the epistemic landscape to one which is inclusive of differing and incommensurable worldviews. The lack of adequate hermeneutical resources upon which to draw to understand certain experiences is readily apparent in educational institutions, but it is not the only institution that needs (rhetorical and epistemic) overhaul. Even the Ministry in 2007 recognized this fact, stating: "The Ministry of Education also recognizes that K-12 education is only one part of the larger picture for creating a better future for Aboriginal children and youth, and is therefore committed to working with other ministries across government on ways to improve outcomes for First Nation, Metis, and Inuit learners."[30] In the final report of the National Inquiry into Missing and Murdered Indigenous Women and Girls, *Reclaiming Power and Place*, an invitation is extended to participate in reconciliation: "There is a role in this transformation for government, for industry, for communities, for allies, and for individuals – we all have a part to play."[31] The report focuses on 'specific moments of encounter' since they are moments that form relationships, and so insist on recognizing

[29] Eva Jewell and Ian Mosby, "Where is the Data? An Interview with Douglas Sinclair of Indigenous Watchdog on the Education Calls to Action," *Calls to Action Accountability: A 2022 Status Update on Reconciliation*, eds. Eva Jewell and Ian Mosby (Yellowhead Institute, December 2022), 21-23. https://yellowheadinstitute.org/wp-content/uploads/2022/12/TRC-Report-12.15.2022-Yellowhead-Institute-min.pdf.

[30] Government of Ontario, Ministry of Education, Aboriginal Education Office, *First Nation, Métis, and Inuit Education Policy Framework (*PDF, Queen's Printer of Ontario, 2007), 5. https://files.ontario.ca/edu-ontario-first-nation-metis-inuit-education-policy-framework-2007-en-2021-10-29.pdf

[31] National Inquiry into Missing and Murdered Indigenous Women and Girls, *Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls,* Volume 1a, 2019, 86. https://www.mmiwg-ffada.ca/final-report/

and valuing the testimony of Indigenous peoples.[32] The report documents the failures of systems, institutions, and individual service providers. To point to insufficient epistemic resources is to attend to the collective or structural failures, as well as the individualized or transactional ones. The duality of the report's focus is an example of a double-loop process needed to address a second-order exclusion.[33] The ecosystem of Ontario education is charged with a collective responsibility to address the lacunae or gaps within its curriculum in order to empower all students to contribute meaningfully and intelligibly.

The Ontario public education system has made decisions and commitments at the policy level to incorporate Indigenous ways of knowing (including their shared hermeneutical resources) into the curriculum. Provincially, there is an ostensible commitment to modifying and adding resources to epistemic systems within education: "We work with Indigenous partners to enhance the Ontario curriculum and support mandatory learning about: residential schools, treaties, the legacy of colonialism, and the rights and responsibilities we all have to each other as treaty people."[34] This is a necessary action to take on the path to reconciliation, and may go some way to answer the TRC's education-based calls to action. However, when Indigenous learning is presented as a special topic, or a niche contribution, it reveals deep structural prejudices

[32] National Inquiry into Missing and Murdered Indigenous Women and Girls, *Reclaiming Power and Place*, 86.
[33] Kate Walsh, "Interpreting the Impact of Culture on Structure: The Role of Change Processes," *The Journal of Applied Behavioral Science* 40, no. 3. (2004): 302-322.
[34] Government of Ontario, "Indigenous Education in Ontario," last modified November 10, 2022, ontario.ca/page/indigenous-education-ontario.

that value and re-institute the dominant epistemic resources rather than having Indigenous ways of knowing fully incorporated in curriculum in order to diversify learning and truly resist second-order exclusions. A positive example of addressing second-order exclusions can be found in the recent Toronto District School Board (TDSB) trustee vote to change a compulsory credit Grade 11 classic literature course into a course called "Understanding Contemporary First Nations, Métis and Inuit Voices." According to the school board, the course is "supported by the Elders' Council, the Urban Indigenous Community Advisory Committee, the TDSB's Urban Indigenous Education Centre, and Indigenous writers, poets, and artists" reflecting consultation and negotiation with multiple epistemic communities.[35]

Third-order exclusions track contributory injustices as defined by Dotson. Contributory injustice is compatible with believing and behaving as though the speaker is competent and trustworthy, so it is not a case of testimonial injustice. Pohlhaus, Jr. argues that "the knower who commits the wrong may be open to adjusting and developing currently shared epistemic resources," but is unable to do so because of situated ignorance.[36] Contributory injustices happen when the privileged knower insists on using epistemic resources from the dominant social imaginary, even when those resources are inapt or inadequate to understand the contributions of meaning being offered. This kind of exclusion points to a willful hermeneutical ignorance demonstrated by those situated in

[35] Toronto District School Board, "TDSB Approves Mandatory Indigenous Education in Grade 11," February 1, 2023, https://www.tdsb.on.ca/Home/ctl/Details/mid/42863/itemId/66.

[36] Gaile Pohlhaus, Jr., "Varieties of Epistemic Injustice" in *The Routledge Handbook of Epistemic Injustice*, eds. Ian James Kidd, José Medina and Gaile Pohlhaus, Jr. (New York: Routledge, 2017), 20.

privileged and powerful positions. It is not the case that Indigenous students lack the epistemic resources to share their experiences, but rather that those with whom they communicate are unwilling (or unable) to shift their framework or move beyond the dominant interpretive resources to meet the student where they are. Recall that Indigenous epistemology focuses on relationships between objects, which supersedes knowledge of the objects in and of themselves. If an agent in the education system clings to the dominant set of resources, the ensemblistic-identitary logic of the epistemology of mastery, the student's testimony will not be taken seriously. The lack of uptake is a contributory injustice, and so demonstrates a third-order exclusion that Indigenous children might face within educational institutions. In this case, the child is left in a situation whereby the only opportunity by which to be heard at all is to mischaracterize his own experience by attempting to translate it into the dominant set of shared epistemic resources. The translation is often not adequate, and again, this is exhausting work that only marginalized groups must do, furthering inequities in education.

An example of peer-to-peer contributory injustice comes from Evelyn Bolton in a reflection on her experiences in Ontario's education system:

> One particularly memorable occasion occurred in a high school history class. A student asked why he should care about Indigenous peoples and why people expected him to feel guilty. It happened hundreds of years ago, so why was it important to learn about Indigenous peoples now? He didn't understand how these events still affect people today, or why it was important to discuss and remember them. [37]

[37] Evelyn Bolton, "Reflections on Indigenous Education in Ontario," *The Varsity*, January 29, 2023. https://thevarsity.ca/2023/01/29/reflections-on-indigenous-education-in-ontario/.

Evelyn, an Ojibwe student, is reflecting on a memory where her peer perpetuated contributory injustice since he failed to understand the ongoing effects of Indigenous genocide in Canada and instead interpreted what he had learned in the high school history class as 'happening in the past,' filtered through a particularly individualist conception of culpability, blame and guilt. This kind of understanding limits much needed change that is collective or structural in nature. His response depends on the instituted social imaginary's understanding of responsibility, which is a hermeneutical resource shared by dominant groups but not by all. He insists on the instituted understanding of individual responsibility rather than being open to the possibility of shared or collective responsibility. This failure to world-travel is both an agential failure and a structural failure. To change this third-order exclusion, the student would need to have a capacity for and practice world-travelling to be able to accept that there are different sets of hermeneutical resources and that the dominant understanding is not the only way to perceive the world.

Conclusion

In this chapter, I have done an analysis of epistemic exclusions that those subjected to Ontario's institution of public education may face. While I gave some more general examples of epistemic exclusions faced by 'children,' I then focused more specifically on Indigenous children to respond to intersectional particularities. Not all children are excluded equally.

We should pay particular attention to which kinds of institutional interventions are successful. For example, The Truth and Reconciliation Commission's final report and accompanying calls to action are thought to be a substantial intervention to aid in the reconciliation of First Nations, Métis and Inuit peoples with Canadian settlers but by the end of 2022, only 13 of 94 calls to action have been successfully implemented.[38] Describing the problem accurately did not solve the problem: giving dominant groups new hermeneutical resources is not always enough to effect change. In education, the policy documents are examples of 'institutional interventions' but as we saw in Chapter Two, the well-intended changes are limited because of a lingering reliance on the central significations of the epistemology of mastery. How do we change whole epistemic systems, with their accompanying normative, ontological, and affective commitments? The resiliency of the epistemology of mastery makes it so the epistemic system is able to absorb the new hermeneutical resources into its ensemblistic-identitary logic. It is the central significations we need to challenge, the organizing schemas themselves.

As a solution for epistemic exclusions, I have elaborated on Dotson's suggestion of world-travelling. While an institutional approach is preferable to the development of agential virtues alone because contributory injustice and third-order epistemic exclusions capture the interstices between agential and structural causes of harm, we need to be vigilant enough to continually adjust approaches.[39] World-travelling helps to mitigate

[38] Yellowhead Institute, *Calls to Action Accountability: A 2022 Status Update on Reconciliation,* eds. Eva Jewell and Ian Mosby, December 2022, 5. https://yellowheadinstitute.org/wp-content/uploads/2022/12/TRC-Report-12.15.2022-Yellowhead-Institute-min.pdf.

[39] Fricker eventually agrees with this, in "Can There Be Institutional Virtues?" and later in Miranda Fricker, "Epistemic Injustice and the Preservation of

some of these worries, because it bridges agential and structural responses to epistemic exclusions. It is very difficult to avoid unwarranted epistemic exclusions, even when one does not attempt to perpetuate them, and even when one may be trying to reduce epistemic oppression in their communities and society. However, just because the task is difficult and oppression is an ever-present possibility, we should still work towards reducing it, even when it is not possible to eliminate altogether. As Dotson argues, "One can believe that they have avoided harmful epistemic exclusions of some forms of epistemic oppression only to find out that one has utterly failed in avoiding others. This reality marks the pervasiveness of epistemic oppression."[40] This is why having self-reflexive agents and systems matters. We need to be able to collectively imagine radically different futures, moving beyond reform to imagining new structures and systems. World-traveling allows us to better see how to get there as well as showing us where and how selves, institutions and epistemic systems are stalling or stopping progress towards that desired future.

Ignorance," in *The Epistemic Dimensions of Ignorance*, eds. Rik Peels and Martijn Blaauw, (Cambridge: Cambridge University Press, 2016), 160-77. Elizabeth Anderson also argues for an institutional approach in "Epistemic Justice as a Virtue of Institutions." *Social Epistemology* 26, no. 2 (2012): 163-173.

[40] Dotson, "A Cautionary Tale," 36.

Conclusion

Ontario's institution of public education can be thought of as a complex ecosystem in which its constituents are afforded opportunities to develop and practice epistemic agency. This is true for the students who attend public schools, many of them children, as well as the teachers, administrators, and education workers who comprise the larger epistemic community. In this dissertation I have argued that Ontario's institution of public education is attempting to make significant changes to its policies and practices, but that these changes are impeded in efficacy due to an ongoing reliance on the underlying epistemology of mastery, the instantiation of the dominant, instituted social imaginary in Ontario. The epistemology of mastery is reflected in the institution's explicit and implicit epistemic commitments. For the institution to achieve its goals, for example, to support the learning needs of a diverse student body, it needs to address the epistemic systems which underlie its policies.

The conceptual framework of social imaginaries provides an explanation for how social meanings, customs, norms, and standards are instituted over time. Through a social imaginary's instituted power, already created and established meanings and ways of life are re-established and re-instituted. Through its instituting power, new meanings and ways of life are created and introduced to the social world, with the hope of their becoming accepted and instituted over time. Social imaginaries have socially constructed central significations that organize and govern meanings and shape how people make sense of the world, themselves, and others.

The dominant instituted social imaginary in Ontario is instantiated by the epistemology of mastery. The two central significations are its ensemblistic-identitary logic and an aspiration of control. The ensemblistic-identitary logic is a logic which reduces all being to that which is determined. This assumed ontological separateness tacitly regulates practices of categorization and methods of inquiry. It influences the way that objects, both non-human and human, are perceived to be: objects are determinate, independent, and separated from its environment and other objects with which they interact. The most highly valued knowledge is objective knowledge, or knowledge of objects, best discerned through causality. This logic is combined with the second central signification, an overarching desire to control. Because objects are separated, it becomes easier to exert control over things separate from oneself. This control is often characterized as 'mastery.' Mastery of self, mastery over others, and mastery over nature or one's environment are considered to be desirable ends in the epistemology of mastery which privileges the individual and posits him as separate from and primary to his relationships. Behind the signification of control is an imperialist vision of rational mastery as infinitely expandable, seeing the world as open and readily available to any individual knower should he choose to inquire into it. A paradigmatic example of this epistemic system is found in Quinean Naturalized Epistemology (QNE). QNE participates in a reductive scientism which insists that the best kind of knowledge is scientific knowledge. Quine believed that in principle all knowledge could eventually be reduced to or translated into the language of physics. This reinforces a hierarchy of knowledge, with scientific knowledge occupying the top spot. Quine also separates

objective knowledge from values, further devaluing the particularities of subjects and their influence on (scientific) inquiries and the objects of knowledge.

Rather than saying that the ensemblistic-identitary logic and desire to control are always and everywhere to be repudiated, Code gives a more nuanced argument. When the epistemology of mastery's central significations are naturalized and normalized to be real, rational, and necessary, rather than socially constructed, this posits an unjustified hegemonic status. But the epistemology of mastery and its central significations are not the only way to organize and govern knowledge generation and dissemination, not the only path towards living well, and so we must call its hegemonic status into question. We should work towards unsettling and decentering the epistemology of mastery in order to make space for new epistemic systems, including space for ecological epistemology as a successor.

I considered ecological epistemology's adequacy as a viable alternative to the epistemology of mastery. The central significations of ecological epistemology are situated epistemic location, co-constitutive relationality, and local responsivity. In stark contrast to the ensemblistic-identitary logic, the signification of situated epistemic location depends on co-constitutive relationality, centering complex co-constitutive or intra-active relations between both human and non-human agencies. Objects and subjects are inseparable from their constitutive relationships, locations, and histories, all deserve to be analyzed in epistemic inquiries. It is through relationships that agency becomes possible: an agent's epistemic location is determined by the social systems and structures which shape her identity and give her a certain place from which she knows. These

significations turn our attention to the systems and structures which constitute individual identities. Ecological epistemology prioritizes communities over the individual, contending that knowledge generation and dissemination happens first at a collective level. Despite the enlarged focus on systems and structures, the signification of local responsivity ensures that we focus on particularities, privileging ground-up analyses rather than the hierarchical universalism so prevalent in inquiries instantiated by the epistemology of mastery. The paradigmatic example of this epistemic system is found in Carson's research for *Silent Spring* and subsequent social negotiation of the research. Carson brought together many studies on the effects of the pesticide DDT to make the results accessible to the public and to caution against its unfettered use. In *Silent Spring* we find literal, metaphorical, and epistemic ecosystems which exemplify the usefulness of focusing on generating particular knowledge of localities and incorporating epistemic location into inquiries. Subjects should be analyzed just as critically as objects of knowledge: both ought to be placed on the same plane of inquiry in order to generate more responsible knowledge.

In Ontario's institution of public education, the reliance on the epistemology of mastery is demonstrated in the ways that institutional policies are enacted and measured. The reliance on the pseudo-rational central significations and the insistence that this epistemic system is the one and only possible system impedes changes to the institution as well as negatively affects epistemic agency. I contend that the institution ought to move toward instituting the significations of ecological epistemology so that epistemic agencies will be better supported. By making agents into ecological subjects who can

recognize their situated partial knowledge, they become more responsible knowers. In addition to becoming more self-reflexive, they also become more finely attuned to the systems and structures which make knowledge possible, which is a practice that decenters individual claims to knowledge in favor of prioritizing systems that serve as preconditions for those claims.

I have shown the negative effects of the epistemology of mastery on students' epistemic agency through injustices occurring in Ontario public schools in the form of epistemic exclusions. Dotson's *degree of change and/in epistemic systems lens* focuses attention on epistemic systems and how they inform agential transactions. The framework of epistemic exclusions attunes us to how agents and structures both can be problematic and cause harm, but also provides us a unique path to lessen instances of exclusions. Awareness of the three modes of exclusion helps us to see the limits of the significations of the epistemology of mastery and realize the promise of the significations of ecological epistemology. I provided general examples of epistemic exclusions that children may face in education systems, and then focused on a particular group, Indigenous children, to show how epistemic exclusions are not experienced by all children equally or in the same way.

To rectify epistemic exclusions, agents in the institution's epistemic community should have the opportunity to work towards becoming self-reflexive, which involves acknowledgement of an agent's situated epistemic location. Attention needs to be paid to the transactions, negotiations, and systems in which agents find themselves; this will help to reaffirm the importance of relationships of trust that are vital to the signification of co-

constitutive relationality. A deeper understanding of how power operates and affects epistemic agency can enhance communal relations of trust and respect, leading to reverence for children's epistemic agency. Dotson draws on Maria Lugones's concept of world-traveling as a solution to third-order epistemic exclusions, which consists of a capacity for transconceptual communication. This capacity, while seemingly an individual capacity or virtue, must be cultivated in community with others. Individuals who world-travel are self-reflexive, and institutions who world-travel are able to reflect on the epistemic systems and social imaginaries whose significations manifest in their policies and material resources.

As curated sites of learning, schools are a good place to develop and practice the capacity to world-travel, and all agents, not just children, need to establish, refine, and continually practice the skill. In the school community, world-traveling puts adults and children in negotiation and exploration together, which confirms the epistemic agency of children and the importance of their roles in classrooms, broader (epistemic) communities, and society generally. This reconceptualization of the institution's ecosystem can make space to establish relationships of trust, which can lead to solidarity and space for coalitional politics to allow the community to collectively resist oppressive structures and systems.

Ultimately, ecological epistemology allows for more radical institutional changes to be implemented instead of slow and ineffective piecemeal reform. Reform of Ontario's educational policies and practices is insufficient if the institution is ultimately instantiated by the significations of the epistemology of mastery. What is needed is space for radical

reimaginings, which become possible by affirming the significations of ecological epistemology. We cannot reform our way out of the hegemony of the epistemology of mastery, we need to reimagine structures and systems, and make space for new significations, meanings, and ways of life. This is why ecological epistemology is a viable successor that allows agents to live better together, human and nonhuman alike. Ecological epistemology allows agents to be more aware of when and how we should exert control because it shows how agents are situated and have partial knowledge owing to their particular epistemic locations. When agents become aware of the influence of structures and systems on knowledge, they are better able to become self-reflexive and better positioned to develop a capacity for world-traveling or transconceptual communication. Situated knowledge is partial knowledge, but it is a more responsible knowledge, and so we are better off for it.

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