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Decolonizing Climate Discourse and Legitimating Indigenous Wisdom: Toward an Ecosystemic Episteme

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Introduction: Nature & Activism in the Capitalocene

> "I'm trying to learn how to live, to have the speaking-to extend beyond the moment's word, to act so as to change the unjust circumstances that keep us from being able to speak to each other; I'm trying to get a little closer to the longed-for but unrealized world, where we each are able to live, but not by trying to make someone less than us, not by someone else's blood or pain. Yes, that's what I'm trying to do with my living now. ..."

> <div align="right">Minnie Bruce Pratt</div>

I: Climate Change, the Capitalocene, and Indigenous Voices

Devoted to redefining western capitalist epistemologies through recognition and acceptance of Indigenous wisdom in modern sociopolitical structures, I use this paper to expose theoretical and material flaws in western neoliberal capitalism as an implicitly colonial knowledge system incapable of sufficiently addressing the climate crisis. Here, colonialism is broadly understood as ideological and/or material practices of exploitation and domination within social, cultural, economic, and ecological frameworks. Colonialism, in this paper, is further characterized by having particular philosophical commitments to notions of binarism, individualism, and consumerism which reveal capitalism's structure and function as neocolonial by nature. Most evidently, today's global climate crisis reveals such implicitly colonial assumptions and material consequences of western capitalist knowledge which continue to harm human and non-human cultures globally. For this reason, research on- and subsequent collaboration with- nonwestern, anti-colonial, and anti-capitalist approaches to climate mitigation is vital to critiquing and transforming systems of social and ecological domination. Holistically, Indigenous resistance offers a theoretical and physical space to actualize such transformations.

Indigenous wisdom has been historically colonized and delegitimated in North and South America since European markets extended their control across the Atlantic in the 15th century. Narratives of forced removal from ancestral lands, destruction of tribal economies, intergenerational trauma from genocidal histories, and continued exclusion from political recognition and thus governmental assistance briefly portray the deep oppression of Indigenous communities found across America and the world. Nevertheless, Indigenous peoples ceaselessly express their fearless resilience and communalism as resistance movements grow in response to cultural and climate crises. Such movements, as informed by Indigenous wisdom, offer a new epistemology to western capitalistic paradigms and can supplement discourse on the planet's most pressing issues.

To describe the lasting ecological and cultural impact of capital on our "Earth System", some scholars use the term "Capitalocene" to denote the geological epoch beginning "particularly between 1450 and 1750 when the greatest landscape revolution in human history occurred on both sides of the Atlantic" (Moore, 2016) and continuing through modern day, as systems of extraction, production, and consumption exponentially degrade our natural and social ecosystems. Understanding the historical context in which capitalism emerged and its consequently irreparable impacts on the planet reveals the current episteme of human thought as intimately and primarily shaped by forces of global capital. As capitalism permeates social relations, conceptions of self, and perspectives toward the natural environment in the Capitalocene, it becomes increasingly evident that its assumptions of exponential growth and human-nature hierarchies are unsustainable. It is especially important to frame this paper within the Capitalocene in an effort to reiterate the fundamentally transformative potential held in anti-capitalist, nonwestern, ecocentric

activism. Put differently, if capitalism is indeed the structure fundamentally responsible for

lasting impacts on our Earth's systems and climate, then dismantling and restructuring

global markets will necessarily alter the current trajectory of climate change.

According to professor Hans Baer, the Capitalocene,

"identifies global capitalism as the elephant in the room when it comes to the
ecological and climatic crisis and the need to transcend it with a more
sustainable world system, although the parameters of an alternative are not
explicitly defined" (Baer, 2017).

In response to Baer's position, I believe that Indigenous knowledge explicitly defines the

parameters of an alternative, sustainable world system. As a framework that guides action,

Indigenous wisdom fundamentally assumes a spirit of anti-capitalism with conceptual

categories defined through a non-exploitative, relational paraconsistent logic. For this

reason, Indigenous voices can bring intergenerational and ecological wisdom to western

climate discourse, challenging capitalist assumptions and effectively creating new

epistemologies. For this reason, this paper engages with interdisciplinary text and

multicultural ontologies through the work of western and Indigenous scholars and activists

to provide readers with holistic representations of the transformative potential of

Indigenous representation in the Capitalocene.

Through completing this project, I have often struggled with my own positionality

as a westerner, deeply embedded in and conditioned by systems of capitalism for the

entirety of my life. As a non-Indigenous person, I grapple with my own conceptual and

practical merit to understand and delineate Indigenous wisdom, careful to avoid "white-

washing" or further colonizing these frameworks. For this reason, it is necessary for me to

recognize the inability that I (and all non-Indigenous people) have to fully conceptualize or explain the ecological, ancestral, relational motivations of Indigenous wisdom. However, an interdisciplinary liberal arts education devoted to understanding the world and its communities through lenses of anthropology, philosophy, and sustainable development has exposed the fundamental ability that all humans have to deconstruct and redefine arbitrary cultural- and thus conceptual- categories. As westerners, we must study and critique those knowledge systems in which we have been socioeconomically, politically, and culturally immersed (i.e. instrumental capitalism), while engaging with and legitimating other, structurally marginalized ways of knowing (i.e. Indigenous wisdom), so that our communities may begin to "transcend the epistemological categories defined by a modern universalizing rationality founded on coloniality" (Casas, 2014). In this way, we may begin to decolonize western knowledge and its resulting structures through cross-cultural discourse with relational ontologies. This paper pushes me to further understand my own conceptual biases, deconstruct their colonial and exploitative underpinnings, and advocate for the legitimation of other worldviews through collaborative research and activism. My hope is for readers to recognize the necessity of such intellectual and material engagement as our planet continues to endure its most devastating climate crises, created and exacerbated by western capitalist knowledge.

In accordance with Indigenous scholar RDK Herman's claim that, "now is the time for a Wisdom Revolution" (Herman, 2015), this paper exposes and examines the necessity for and implications of legitimating Indigenous wisdom into extant structures of climate discourse in the capitalistic west. To begin, Chapter 1 frames systems of Indigenous wisdom within a "paraconsistent logic" (Sinclair, 2018) to categorically explain for the

relational and fluid nature of many nonwestern ontologies. Within this framework, a third space is opened as entities may be categorized outside of the binary exclusion laws of classical logic- as true, false, both, and/or neither, for example. This chapter expands on these fundamental assumptions to explain how Indigenous wisdom shapes and interprets human experience as it defines relationships to self, the natural environment, and other beings.

Similarly, chapter 2 critically examines epistemologies of western modernity, specifically with respect to their impact on neoliberal capitalism. As an instantiation of Enlightenment ontology rooted in exploitation and hierarchy, western capitalism operates under a particularly narrow set of ontological commitments, constrained by classical logic and its hierarchical binaries. By illuminating the underlying logical categories of western capitalist thought, I reveal the limited and exploitative worldview represented in modern western climate discourse. Further, this chapter evaluates supply-demand mechanisms, cost-benefit analyses, and environmental externalities with respect to capitalism's inability to transform systems responsible for the climate crisis. Throughout this chapter, I intend for readers to gain:

> "a better understanding of our western modernity… enabl(ing) us to better recognize the alternative modernities which are developing in other parts of the world, to free them from the distorting grid of a bogus universality and us from our ethnocentric prison" (Taylor, 2010).

Deepening one's understanding of the categories which construct their worldview is foundational to creating transformative, ideological change as it encourages critical thought. For this reason, chapter 2 serves to unearth aspects of western- and neoliberal

capitalist- ideology that many individuals take for granted as truth, opening up a space for discourse with alternative ontologies.

In chapter 3, I explore the ideological and material mechanisms by which modern western thought delegitimates and colonizes Indigenous ways of knowing, in order to highlight the transformative potential of legitimizing and incorporating Indigenous wisdom in climate discourse. Since there may exist an urge for western readers to instinctively dichotomize instrumentality and Indigeneity due to the binary categories of Enlightenment philosophy, this chapter firstly explains how these dissonances are rectifiable. Further, it is important to recognize that viewing such differences through a binary lens of truth and falsity is implicitly colonial and dominative. From here, I explain current climate efforts of western market-based states to demonstrate their shortcomings and the necessity for including Indigenous perspectives. Finally, chapter 3 offers contemporary examples of cross-ontological cooperation in climate discourse as a framework for future action.

The concluding chapter of this thesis explores the connections between Indigenous experiences with the climate crisis and disproportionate impact of COVID-19 on Native American livelihood. In so doing, the conclusion calls readers' attentions to the structural vulnerability implicit in neocolonial systems of capitalism. Reminding us to embrace the interconnectedness of our global community, this final section connects theoretical perspectives discussed throughout the paper to material examples, embodying the spirit of a conceptual framework which guides cooperative action.

Chapter 1: Understanding Indigenous Wisdom

I: Indigenous Wisdom as a Framework

Central to understanding Indigenous[1] worldviews and their relational ontologies is

the logic within which they are constructed. This logic becomes especially important in

comparing the Indigenous perspective to that of western[2] capitalism, as they employ

seemingly opposing logics that engender vastly different concepts of self, environment, and

others. In her paper, "Exploding Individuals: Engaging Indigenous Logic and Decolonizing

Science", Rebekah Sinclair delineates "Indigenous paraconsistent logics" and their

explanatory power within Indigenous systems in contrast to western classical logic that

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[1] Indigenous is intentionally capitalized through this paper in an effort to syntactically legitimate non-western frameworks, in accordance with NAJA (Native American Journalists Association)
[2] Through the entirety of this paper, I will intentionally denote "western" using a lowercase "w" in order to oppose assumptions of western hegemony in academic writing.

asserts a "universal conception of reason" that is steeped in Eurocentrism and patriarchy (Sinclair, 2018).

While the West's hegemonic classical logic operates within a system of binaries (true/false, nature/culture, human/nonhuman, etc.), a paraconsistent logic is a "third value system" that "affirms the fluidity, relationship, and change of categories and identities, rather than their permanence and fixed essence" (Norton-Smith 2010; Waters 2004a,b; cit. in Sinclair, 2018) In this way, Indigenous worldviews do not assume experience to fit into strict categorical binaries. For example, paraconsistent logics allow for the concept of 'self' to be defined as both individual and communal, natural and cultural, human and nonhuman, "multiplicitous and singular" (Sinclair, 2018). Identity's flexibility and interconnectedness is central to Indigenous relationships between the human and the non-human. Defining the self within this ontological framework violates the law of noncontradiction upon which classical logic is built and would appear invalid to the classical logician since categorical contradictions are necessarily false under their epistemological framework. This epistemological divergence reveals the "function of truth" in Native philosophy: "to acknowledge and bring about right relations, ethical relations, within and between communities" (Sinclair, 2018). Classical logic's assumptions and implications will be discussed further in the following chapter. The ontological subject of Indigenous wisdom is not the individual, but rather the relationships which create our living ecosystems. Through a paraconsistent logic, Indigenous worldviews reject the strict categorical binaries assumed by classical logic and western epistemology, effectively "decolonizing our frameworks of knowledge" (Sinclair, 2018). This process of decolonization not only legitimates historically marginalized worldviews but can enrich

western discourse surrounding environmental and social issues, especially the climate

crisis.

Paraconsistent logics lay the foundation for complex and relational Indigenous

wisdom. The emergent systems of "traditional knowledge" embody an ecosystemic

ontology that appreciates dynamic relationships between culture and environment. In fact,

such an ideological categorization does not exist in Indigenous thought as environment,

self, and others are inextricably connected by natural energy. Tewa Indian scholar Cajete

describes that such a worldview acknowledges that "everything is considered to be 'alive'

or animated and imbued with 'spirit' or energy" (Cajete, 2005). The following section will

explore Indigenous wisdom as an "ideological substratum of concepts, notions, and ideas

based around interpersonal and spiritual considerations, family, and oral history" to

holistically explain these relational perspectives (Ford, 2009).

Indigenous scholar, RDK Herman, describes the Indigenous epistemological

framework as "multigenerational, deep and spatial" knowledges that are constructed

through shared narratives (Herman, 2015). Multigenerational systems of knowledge also

reveal the cultural value placed on ancestry and ancestors. Communities are positioned

within a web of ancestral energy by which their natural and ideological systems are

constructed. Furthermore, according to Winona LaDuke, Anishinaabekwe (Ojibwe)

enrolled member of the Mississippi Band Anishinaabeg, "Traditional ecological knowledge

is the culturally and spiritually based way in which Indigenous peoples relate to their

ecosystems. This knowledge is founded on spiritual-cultural instructions from 'time

immemorial' and on generations of careful observation within an ecosystem of continuous

residence" (LaDuke, 1994). The ontological distinction drawn by western thought between

culture and environment is blurred here, as native thought is characterized by fluidity and dynamic relationships among human and non-human energies. From this fluidity Indigenous thinkers categorize the "self" as ecosystemic, encouraging nonexploitative social and ecological relations. Put differently, the function of Indigenous philosophy is to describe and understand relationships and reciprocity, rather than treating selves as individual and separate entities.

      An interesting parallel between the Indigenous and industrial capitalist frameworks is drawn by Baker et al. in delineating "Native science" and "Western science", respectively. The following chart offers a visual representation of some characteristic distinctions in assumptions of each knowledge:

Native Science	Western Science
Holistic	Discipline-based
Locally valid	Universally valid
Contextual	Abstraction
Value-Laden	Value-Free

Table 1: Comparing Native and Western Science[3] (Baker, et al., 2011)

As aforementioned, Indigenous frameworks are intrinsically entrenched in and created by social, historical, ecological contexts. In this way, Native science can be described as "holistic" and "contextual" as in the chart above. Charged with explaining phenomena within an ecosystemic paradigm thus expands one's positionality beyond the bounds of individualism and increases one's relational connections to land and others, producing intimate relationships to local land, people, and culture. Thus, these knowledges can be

[3] These characteristics, especially those of western science as "value-free" or "universally valid", represent the aspirational assumptions of each knowledge; it is important to note that such statements are often idealized and not achieved in practice.

conceived of as "locally valid", as the very epistemological categories are created by personal relations to native land through ancestral history (Baker et al., 2011). Multigenerational conceptions of self, environment, and community position Indigenous thinkers differently than western thinkers in relation to the natural environment. According to Arctic anthropologist Igor Krupnik, "'I wouldn't put it like 'Indigenous people' and 'scientists.' It's a difference between someone who lives in the environment daily, and someone who studies it [at a distance]'" (Loury, 2012), further evidencing the relational ontology embodied in Native science.

Seeking to elucidate traditional knowledge in a written and academic paper employing categories continues to challenge writers from the western tradition. As a non-Indigenous person, I hold that the categorical distinctions which I draw in this paper (relationship to self, relationship to environment, and relationship to others) are constructs of my own ideological constraints and should in no way diminish the complex fluidity by which Indigenous knowledges operate. Instead, I wish to categorize the analysis in this way in order to provide clear parallels for comparison between Indigenous and industrial perceptions of self, environment, and others. Since Indigenous wisdom does not reduce phenomena into "discrete conceptual categories" (Smithers, 1994), I encourage readers to recognize the intentionality behind my syntactic choice to include relationality in conceptual categories of Indigenous wisdom. The following section will use the works of Indigenous community members and scholars along with those of western philosophers and anthropologists to create a holistic interpretation of the impact of a relational wisdom on conceptions of self, environment, and others.

II: Relationship to Self

To begin this section, I would like to offer a type of thought experiment to illuminate a foundational difference between Indigenous and western ontology at the heart of identity. I invite the reader to reflect on the most commonly used methods by which members of your culture introduce themselves in social settings; maybe try to imagine the last time you introduced yourself to a new friend or colleague. When charged with this task, as a product of western thought, I assume the common introduction to consist of sharing first- and maybe last- names along with a handshake. Here, it is clear that one's identity is defined rather narrowly when meeting others for the first time. This basic form of introduction likely sounds familiar to western readers.

To elucidate the influence of Indigenous thought on personal introductions, we can look to the work of Indigenous scholar Linda Tuhiwai Smith in describing traditions and identities of Maori people. According to Smith,

> "one commonly used way is to introduce yourself by naming the mountain, the river, the tribal ancestor, the tribe and the family. Through this form of introduction, you locate yourself in a set of identities which have been framed geographically, politically and genealogically." (Smith, 1999)

Positioning oneself within a larger ecosystem reveals the relational ontology that underpins Indigenous wisdom and defines one's relationship to self. Moreover, this conceptualization promotes nonhierarchical identities within and between communities of human and nonhuman life that are shaped by one's relationships to land, ancestors, and other members of the community.

Furthermore, it is vital to understand this network of ecosystem relations in terms of nature and culture, non-human and human, localized and communal; this understanding effectively decenters western modernist individualism that separates humans and nature. Whereas the Enlightenment sought to externalize and objectify nature for advancing human thought, traditional knowledge rejects the assumed nature-human binary at the heart of western identity. Instead, traditional ecocentric cultures and spiritualities emerge in accordance with nature to encourage interdependent relationships. In doing so, Indigenous perceptions of self are defined by and inextricable from one's position within a network of socioecological relations with human and nonhuman community members (Ingold, 2000). Outside of western epistemological binaries like 'self' and 'other', Indigenous wisdom embraces a third-value system in which individuals may be conceived of as a participatory element of an ecosystem that consists of myriad human and non-human actors innately defined by their relationships.

As Indigenous systems of knowledge and their emergent narratives intimately connect humans to nature, some argue that "the human mind is not separate from the natural world but an aspect of the larger psyche of nature" (Kapfhammer, 2012). Put differently, one's very mental state is directly shaped by the state of their surrounding natural ecosystem. Therefore, the climate crisis and its ecological externalities must, according to Indigenous thought, be conceptualized as an intimately personal crisis tied to emotional well-being. Ecopsychology, the framework that makes these connections, offers insight into the deeply personal impact of climate change and environmental degradation on Indigenous livelihood. For this reason, climate discourse must legitimate traditional

knowledge to include voices of those populations which hold environmental sustainability as a metric for individual and communal well-being.

The paraconsistent logic embodied in Indigenous thought is further exemplified as "self" is defined outside of a binary to include concepts of environment and community. LaDuke further illustrates traditional concepts of self as defined within an ecosystem of interactions that gives rise to human-nature relationships of reciprocity. Whereas western industrial thinking positions individuals in hierarchy above or outside of the natural environment, paraconsistent logics allow native thinkers to position themselves as inextricable from surrounding ecosystems. In doing so, environmental sustainability movements like those combatting the climate crisis are also conceived of as social justice movements that afford individuals opportunities to live in harmony with themselves, their ancestors, and their natural ecosystems; "as a failure to develop such relationships, the ecological crisis can be viewed as a psychological and spiritual crisis" (Fisher, 2005). Including voices of those that conceptualize the climate crisis in this way can provide non-native thinkers with an alternate framework by which to understand the impacts of industrial systems of thought and practice that lead to ecological degradation through deforestation, pollution, and fossil fuel dependency to critique the theoretical frameworks that perpetuate such structures. In the following section, I will explore more specifically the relationship to the environment as constructed by Native wisdom and briefly elucidate its implications for climate discourse.

III: Relationship to Environment

As aforementioned, human beings exist only insofar as we are conceptualized as within a broader ecosystem of relations with other human, and non-human, entities under a paraconsistent logic. Such a logic gives rise to the possibility of a third-value system that can position humans as both natural and cultural, within and separate from the non-human. From this emerges a sort of ecological logic that includes natural entities in conversations of identity and morality. In this section, I will explore the impact of this ecological logic on Native relations to our shared environment as the "foundation of social and cultural reproduction" (Casas, 2014). As described by Tim Ingold in his *Perceptions of the Environment*, anthropologists operate on claims of "perceptual relativism" which grant epistemological and ontological validity to alternate frameworks of thought and representations that construct different cultures' realities. It is upon this foundation that I attempt to illuminate the grounds for legitimating common themes of Indigenous relationships to the environment.

The Native relationship to non-human actors in the environment can be explained through the lens of the Cree people Indigenous to northeastern Canada in their hunting perceptions and techniques. While industrialized pastoralism has engendered relations of domination and control of humans over animals, Cree hunters view animals as willing subjects that offer themselves up "intentionally and in a spirit of good-will or even love towards the hunter" (Ingold, 2000). In the moment that caribou, for example, look the hunter in the eyes, a sort of reciprocal offering takes place in which the hunter *receives* the caribou's offering, rather than dominating and controlling it, as denoted by industrialized pastoralist representations. To western scientistic thinkers, the notion that an animal

would willingly give itself up to the hunt likely seems like preposterous folklore; however, critical anthropologists reject studying claims of truth-value and instead examine the *meaning* behind such frameworks. In doing so, anthropologists act to legitimate Native frameworks based on their common goal to all systems of thought, including western science and industrial logic: to understand and create meaning of natural and cultural phenomena. Cree interpretations of the hunt further diverge from commonly held western notions as they embody and encourage spiritual and emotional connections to the non-human; Ingold delineates these relationships as intuitive based on Cree hunters' "sensitivity and responsiveness" (Ingold, 2000) to natural phenomena such as caribou. It is through this sentient intuition that many Indigenous communities intimately position themselves within their natural ecosystems, creating reciprocal representations of the relationship between people and their environments.

In Amazonian ontology, moreover, nature is considered as a "moral object" thus ascribing notions of respect and natural rights to non-human beings and energies (Kapfhammer, 2012). As native Amazonian groups posit nature as an object worthy of moral consideration, the nature-culture dichotomy imposed by industrial thought is inconceivable, reductionist and dominative in its attempt to remove humans from nature to hierarchize morality as unique solely to humans. On the contrary, as denoted in Article 3 of Bolivia's "Ley de Derechos de la Madre Tierra" (Law of the Rights of Mother Earth) that included Native voices in its formation, nature is

> "the living dynamic system comprised as the indivisible community
> of all living systems and all living beings that are interrelated,
> interdependent, and complementary, and that share a common
> destiny. According to the cosmovisions of the first Indigenous and

peasant nations and pueblos, Mother Earth is considered sacred"
(Casas, 2014).

Divergence from the western human-nature dichotomy is especially evident here. Similarly, the Waswanipi Cree ascribe personhood to non-human forces of nature in the following way:

"in the culturally constructed world of the Waswanipi the animals, the winds and many other phenomena are thought of as being 'like persons' in that they act intelligently and have wills and idiosyncrasies, and understand and are understood by men." (Feit, 1973)

Constructing and representing the environment in this way produces discourse that paints human interaction with the natural world as a kind of interpersonal dialogue. The Cree cosmology also attributes personhood to non-human beings as "personhood… is implicated in the very condition of being alive: the Cree word for 'persons' can itself be glossed as 'he lives' (Ingold, 2000). To further exemplify the implications of such a dialogue, I will elucidate the material conditions and ideological narratives of the Mbuti Pygmies of the Ituri Forest as exposed by anthropologist Colin Turnbull.

As children of the Ituri Forest, Mbuti Pygmies refer to the environment upon which they are dependent as 'Father' or 'Mother' in reference to its kin-like properties of supporting life and giving affection. Similar representations of the land are constructed by the Batek Negritos of Malaysia who see themselves as having an "intimate relationship of interdependence with plants, animals and *hala'* (including the deities) that inhabit their world" (Endicott, 1979), and the Nayaka of South India that do not conceive of nature as "something 'out there' but as a parent, it provides food unconditionally to its children"

(Bird-David, 1990). Reciprocity and sharing are thus revealed as fundamental tenants common to many forms of Indigenous wisdom. Representing forests as care-givers and kin are more than simply metaphorical devices for native populations; instead, they reveal what Ingold refers to as the "ontological equivalence of humans and animals, as organism-persons and as fellow participants in a life process" upon which many forms of Indigenous knowledge are constructed (Ingold, 2000). If western discourse engages with this relationality, the climate crisis may be conceived of as one of paramount personal, cultural and environmental significance.

The traditions of the Ojibwa world further explain native relationality to Nature. To the Ojibwa, personhood status is often afforded to non-human beings; not all animals are persons, but persons can appear in animal form. This concept of the non-human is clearly different from the anthropomorphic tendencies of western traditions. Placing animals in the same ontological category as humans intimately connects all species in a web of being, "the animal-persons in the environment of the Ojibwa are considered to be on the same level as, if not more powerful than, human beings themselves" (Ingold, 2000). Ojibwa allegorical narratives further represent environmental knowledge as humans are often portrayed as transforming into and having intimate relationships with animals, and vice-versa. This ontological fluidity clearly reflects the nature of Indigenous thought from a paraconsistent logic as described in section I. In contrast to the human-culture binary drawn by western thought,

> "the implicit overall metaphysic of American Indian cultures locates
> human beings in larger social, as well as physical environments. People
> belong not only to a human community, but to a community of all nature
> as well. Existence in this larger society, just as existence in a family and

tribal context, places people in an environment in which reciprocal responsibilities and mutual obligations are taken for granted and assumed without question or reflection" (Callicott 1989; cit. in Nelson 2005).

In this way, the plights affecting non-human beings like habitat destruction, pollution and global temperature rises impact Indigenous populations disproportionately due to their shared ontological status with non-human persons. Indigenous perspectives must be considered in fighting against the climate crisis due to their unparalleled metaphysical and material connections to the natural environment and the totality of its inhabitants.

IV: Relationship to Others
Ecocentric frameworks of knowledge, like those commonly held by Indigenous thinkers, engender "relational and communal ontologies" (Sinclair, 2018) that shape interactions between humans and their environments. As denoted in the previous section, ontological relationality between humans and animals assumes that all beings have access to a fluid 'personhood' regardless of their manifest form; paraconsistent logics also allow beings to exist between and within identities. This conceptualization rejects the hierarchical strata of life as described in much of western philosophy and that underpins exploitative structures contributing to the climate crisis today. Drawing on the Batek, Mbuti and Nayaka, "the environment shares its bounty with humans just as humans share with one another, thereby integrating both human and non-human components of the world into one, all-embracing 'cosmic economy of sharing' (Ingold, 2000). Understanding the human-nature relationality in traditional knowledge is fundamental to exploring the

social communalism emergent from such frameworks, as reciprocity, sharing and interdependence influence the Indigenous social body. This section will highlight community as a fundamental tenant of Indigenous wisdom through ancestry and sharing, as it serves to encourage non-hierarchical socioecological relations that could transform systems of oppression that disproportionately impact vulnerable populations like American Indians.

Sinclair reveals, "the function of truth in American Indian philosophy is to acknowledge and bring about right relations, ethical relations, within and between communities" (Sinclair, 2018). Conceptual categories and entities, therefore, exist only insofar as they are situated within a relational context. Thus, extant social communities only exist insofar as they are conceptualized within a historical web of ancestral relations. In contrast to a genealogical model of ancestry that assumes a geometrical linearity of existence as it relates beings through lines and points as reflected in ancestral 'trees', Ingold proposes a relational model,

> "giving us a way of beginning to think about persons, relationships and land that gets away from the static, decontextualizing linearity of the genealogical model and allows us to conceive of a world in movement, wherein every part or region enfolds… its relations with all the others." (Ingold, 2000)

Ingold argues that the relational model effectively conveys the ways in which many Indigenous people understand their identities as positioned within socioecological communities. Ancestry is difficult to categorize within a relational model due to the multiplicity of definitions emergent from different Indigenous worldviews, histories and narratives. Under a paraconsistent logic, ancestors may be conceptualized as

human, non-human, both, or neither; to Ingold, ancestors can be viewed as

"ordinary humans who lived in the past, or spirit inhabitants of the landscape, or

mythic other-than-human characters, or original creator beings" (Ingold, 2000).

Knowing this, we are able to explore more deeply the relational ontology in

Indigenous wisdom that encourages social reciprocity.

Rejecting genealogical ancestry as it simply connects lines (relationships) drawn

between points (individuals), Ingold's relational model provides a framework by which we

may evaluate the implications of Indigenous ancestry on sociocultural relations. Ancestral

relationality underpins all interactions in native lifeworlds since knowledge itself is seen as

a multigenerational construct. From this, Indigenous explanations of phenomena like crop

yield and communal unrest are often explained in ancestral terms. The ritual cycle

performed by the Tsembaga tribe of Papua New Guinea exemplifies the influence of

Indigenous ancestral logic on material practices like farming and social balance. When pig

populations exceed carrying capacity, Tsembaga social order begins to waiver as women

have to work harder to grow food for pigs and conflict occurs when pigs invade gardens

and damage crops. In response, the Tsembaga perform what Roy Rappaport refers to as

"ritual regulation" through a cycle beginning with communal consensus. After it is decided

among elders that connect with ancestral energy for guidance, the ritual cycle is carried out

through intertribal warfare and subsequent feast. While this regulatory process can be

explained in terms of carrying capacity, the Tsembaga attribute the initial social unrest and

consequent socioecological balance to ancestral powers. Further, we can look to Aboriginal

Australian communities to exemplify the physical and immaterial manifestations of

ancestors in constructing Indigenous lifeworlds. Ancestral creator beings are physically

embodied in landscape elements like rocks, hills, and bodies of water while existing in a parallel noncorporeal space. Reflecting the implications of a paraconsistent logic, topographical features embody ontological fluidity as they "engender living persons" and signify "ancestor's powers of creativity and movement" (Ingold, 2000). Discourse surrounding Indigenous social systems must necessarily recognize the role of ancestors in creating ideological categories and material conditions.

Once the magnitude of ancestral influence is realized, the intimate relationality between extant human beings can be rationally inferred. As relations of deep interconnectedness with ancestral beings underpin Indigenous thought, so do relations of reciprocity with other human beings. By positioning and identifying oneself within a web of human and non-human ancestral and living energy, the lines of the individual are blurred. Unlike western Enlightenment epistemology that necessarily defines the individual within strict ontological bounds, Indigenous knowledge conceptualizes the self as a complex system of spatial and temporal depth, intricately connected to other humans and non-humans, along with material and immaterial entities. Thus, interactions with other members of traditional societies are not motivated by the ontological hierarchy as reflected by many structures emergent from industrial thought. Instead, 'economies of sharing' emerge between and within human- and non-human- communities.

However, it is important to question the categorical binaries implicit to western thought in order to reject the popular "ecological Indian" misconception. While competition and exploitative hierarchies are not assumed in Indigenous wisdom, these communities are not universally egalitarian and pacifistic as commonly conceptualized by western writers, filmmakers, and early anthropologists. For this reason, I am not arguing that Indigenous

thought necessarily creates idealistic worlds free of competition; rather, the categories engendered by Indigenous wisdom are constructed outside of a western binary that inherently opposes humans and nature. In this way, entities are conceived of as relational and ecosystemic, intimately connected to and responsible for one another. Unlike individualistic concepts of self and an implicitly different other, Native wisdom encourages human and non-human actors to recognize their interconnectedness within shared environments and act in ways that respect the capacities of the ecosystem as a whole and reject industrial notions of human exceptionalism and hierarchy over nature. For example, in his description of technology and indigeneity, tribal scholar RDK Herman states, "there is a consensus about how ancestors had a closer connection with Mother Earth because they performed rituals and ceremonies for her, or because they did not pollute, nor took over her resources" (Herman, 2015), thus revealing the material reciprocity implicit to native thought and practice.

Within the context of climate crises, such a framework can provide western discourse with alternate perspectives toward culture and nature. "Resource management systems that exist in North American law today rely on a system of property rights that emulate the social values of Euro-American society and have no reference to Indigenous values and property rights," argues Winona LaDuke of the Mississippi Band Anishinaabeg in her critique of land tenure battles in North America between native groups and state powers. Native property rights, as denoted by LaDuke, "can be said to rest with the group, the collective", posing challenges to state concepts of individualism, ownership, and capital, systemically placing forms of Indigenous ontology in opposition to state interest and normative claims of western capitalist ethics. Thus, Indigenous perspectives that cultivate

ecosystemic conceptions of self, environment, and others are not often included on western

platforms at state and federal levels, even in environmental discourse. The social,

ecological, and moral responsibilities for other members of one's community that emerges

from Indigenous wisdom has transformative potential in the climate crisis as it positions

individuals within an ecosystemic context of interactions with other human and non-

human entities; individual health and well-being is contingent upon the wellness of the

ecosystem and the totality of its entities.

Chapter 2: Instrumentality in Western Modernity and Neoliberal Capitalism

I: Instrumental Logic and its Assumptions

In attempting to conceptualize the philosophical implications of western modernity and its Enlightenment project[4], it is necessary to evaluate those fundamental assumptions upon which classical logic is constructed in such a way to implicitly legitimate itself within current ideologies. Further, one must consider the historical and political contexts from which modern philosophy arose to holistically evaluate its conceptual categories. Within this chapter, I will elucidate those conceptual categories constructed by western modernity and its framework of classical logic, especially as they differ from those embodied in Indigenous wisdom. Further, this chapter will analyze the logical assumptions imbued in neoliberal, capitalist economic theory as inextricable from modernity's conceptual constraints. In so doing, this chapter will evaluate themes of instrumentality, disengagement, and individualism as related to classical logic and neoliberal capitalism in order to critically evaluate western concepts of self, environment, and others within the context of the climate crisis.

Firstly, classical logic operates under two primary ontological assumptions that reinforce binary interpretations of experience and knowledge: the law of exclusion and the law of non-contradiction. The law of exclusion states that concepts and entities must be or not be, that nothing indeterminate can exist within the western ontology of accepted things. For example, beings must be human or non-human, neither both nor neither.

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[4] In this chapter, 'western modernity', 'instrumentality', and 'Enlightenment philosophy' will be used interchangeably to refer to the philosophical era between 1600-1800 within the west that created conceptual categories like instrumental rationality, individualism, disengagement, and classical logic.

Similarly, the law of non-contradiction states that concepts must be true or false, extant or

nonexistent, based on empirical and rational reasoning (Sinclair, 2018). Such constraints

oppose the paraconsistent logic embodied in Indigenous wisdom that allows for the

emergence of a third value system that recognizes the interconnections, fluidity and

imbued spirit or energy within both living and non-living systems. Put differently,

paraconsistent logics open a sort of 'third space' which affirms more than 2 values (i.e.

human, non-human, both, or neither); also in this space, contradictions may be true.

Arguably, this logical system could foster more holistic understanding of empirical

phenomena, like the climate crisis, than the binary constructs of western modernity which

seek to hierarchize being, following Platonic tradition. As Sinclair states, classical logic has

limits insofar as it often excludes or ignores aspects of complex systems that fall outside of

its accepted ontology. As modernity and classical logic necessarily assume their own

ontological priority as true, falsity is implicitly attributed to non-western logics like that of

Indigenous wisdom, according to laws of exclusion and non-contradiction.

Further contrasting the paraconsistent logic embodied in Indigenous thought,

Enlightenment philosophy operates within the constraints of classical logic as it assumes a

"commitment to an objective conception of truth". This particular conception of truth as

entailed in western modernity and classical logic asserts that, "truth is objective in that it

derives from the nature of reality, and is not dependent on beliefs, theories, practices, and

the like. Classical logic is a theory of logical properties, logical truths, and logical states of

affairs" (Chateaubriand, 2017). The relationship between classical logic and concepts of

truth is self-reinforcing as logical forms, particulars5, and states of affairs are established as universal, necessary properties. Under the conceptual constraints of binary western ontology and its corresponding logical hierarchy, these categories are accepted and universalized as the truest methods for understanding the empirical world. Thus, non-western ideologies that recognize the fluidity and impermanence of ontological categories are necessarily dismissed by western philosophy as false. It is from this hierarchical understanding of knowledge itself that Sinclair denotes classical logic as embodying a "logic of domination" (Sinclair, 2018) in which other ways of knowing are implicitly rejected and delegitimated based on their explanatory inferiority and violations of classical laws like those of non-contradiction and exclusion. Even further, the very nature of logical forms and particulars makes immanent critiques of those categories epistemologically impossible as truth is necessarily inscribed on their existence; one cannot question the validity of a logical truth from within the same philosophical framework that denotes that very truth as universal.

In search of logical universals and truth-determining principles, modern philosophers such as Descartes and Bacon were charged with the task of uncovering "immutable laws which function in a stable and orderly way that can be discerned by the rational mind and manipulated for human benefit" (Best, 2011). Clearly, this assumption of unchanging and universal laws is in direct contradiction to the Indigenous paraconsistent logics which grant fluidity and impermanence to empirical phenomena and conceptual

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5 Chateaubriand states that logical states of affair operate as statements that combine logical properties (forms) and particulars. For example, "the state of affairs that Frege was a teacher of Carnap may be conceived as a combination of the level one binary property *is-a-teacher-of* with the particulars Frege and Carnap" (Chateaubriand, 2017).

categories alike. With modernity defined as a "growth in reason... scientific consciousness or the development of a secular outlook or the rise of instrumental rationality or an ever-clearer distinction between fact-finding and evaluation" (Taylor, 2010), the dominative tendencies of its binary and hierarchical categories are clear. This chapter reveals modernity's philosophical, cultural, and ecological domination as related to the project's commitment to using knowledge as a means to "serve the needs of human beings and to expand their power over nature" through processes of "rationalization, quantification, and abstraction" (Best, 2011) that effectively instrumentalize ideological, social, and ecological relations.

Central to understanding the mechanisms of a "logic of domination" is the notion of instrumentality: the process of adopting means insofar as they serve specific ends. For example, instrumental rationality as embodied in modern philosophy operates to serve the larger ends of demystifying and disenchanting the physical world through 'rational' thought as defined by classical logic. Some argue that the Enlightenment, "ultimately presided over the 'death of nature'" (Merchant, 1980). According to Steven Best in his delineation of the Enlightenment project,

> "in the transition to modernity- driven by markets, science, and technology-reason awakens to its potential power and embarks on the project to theoretically comprehend and practically "master" the world. For modern science to develop, heretics had to disenchant the world and eradicate all views of nature as infused with living or spiritual forces. This required a frontal attack on the notion that the mind participates in the world, and the sublation of all manner of the animistic and religious ideologies- from the Pre-Socratics to... indigenous cosmological systems- which believed that nature was magical, divine, or suffused with spirit and intelligence" (Best, 2011)

Thus, to Enlightenment thinkers and western philosophy as it manifests contemporarily,

"the proper stance to self and nature is one of disengagement" (Taylor, 2010) and

"instrumental reason is... knowledge for the sake of power, profit, and control" to "order,

categorize, control, exploit, appropriate, and commandeer the physical and living worlds as

means towards designated ends." Thus, such an ideology encourages and necessitates a

process of "disengagement" from self and the natural environment in order to achieve an

objective account of empirical phenomena, explaining "Bacon's and Descartes's call to

command and commandeer nature" (Best, 2011). By abstracting and alienating humans

from their ecological and sociocultural ecosystems, the project of modernity has served to

normalize humans' positionality as outside and above the natural world, charged with the

epistemic task of rationality insofar as it serves the end of understanding nature for

manipulation and human benefit.

Moreover, Enlightenment categories do not only demand one to disengage from

their surrounding environment, but also called individuals to practice inwardness and self-

control as a central expression of agency. In his, "Inwardness and the Culture of

Modernity", Charles Taylor delineates the relevance of a linguistic shift unique to

modernity in which, "there is a peculiar usage involved in describing the human agent as 'a'

self or 'the' self". Prior to modernity, ancient western philosophy was devoted to making or

finding order in the external world through concepts like the cosmos, human nature, or an

ultimate 'good'. Searching for meaning in this way did not require ancient thinkers to

examine or analyze themselves as rational agents, nor did it call for a practice of

disengagement to fulfill the aforementioned criteria for rational thought as outlined by

classical logic. Contrarily, modernity urges thinkers to "stop simply living in our bodies or

within our traditions or habits and, by making them objects for us, subject them to radical

scrutiny and remaking", repositioning the 'self' as vulnerable to unprecedented

examination and domination within the constraints of instrumental rationality. It is upon

these fundamental assumptions of western modernity that this chapter seeks to build a

critique of neoliberal capitalism and its ideology, supporting the claim that modern

capitalism operates as a manifestation of Enlightenment instrumentality and serves to

normalize and legitimize logics of domination.

II. Industrial Capitalism and Instrumentality

To elucidate the ideological concurrence between western modernity and

neoliberal capitalism, it is helpful to conceptualize both ideologies through the framework

of instrumentality. As aforementioned, the Enlightenment project established itself

through the use of binary classical logic and instrumental rationality to disenchant the

environment and create hyper-individualized concepts of self in order to classify the

natural world- both human and non-human- for scientific understanding and subsequent

anthropocentric manipulation. This section outlines and critiques the logic under which

neoliberal economic theory operates through examining its basic assumptions, especially

as related to cost-benefit analysis, supply and demand, and a limitless growth model.

Similarly, I will expose those mechanisms by which neoliberal capitalism implicitly

embodies themes of classical logic, disengagement, and individualism.

Upon its inception during the sociopolitical and economic transition out of

feudalism as the dominant structure, capitalist theory claimed to foster economic and

social development through maximizing profit and efficiency through supply chains. In

describing capitalism's impact on society and the environment, economic theorist Paul

Sweezy outlines the main assumptions upon which the system emerged. Sweezy delineates

the capitalist growth theory as,

> "by directly maximizing profit the capitalist (or entrepreneur) is indirectly
> serving the community. All the capitalists together, maximizing their
> individual profits, produce what the community needs while keeping each
> other in check by their mutual competition". (Sweezy, 2004)

Within this logical structure, the economic benefits endowed upon elite capitalists

necessarily translates to economic and social benefits for the communities to which they

belong. This implicit distinction between self and community in which individuals are

extricated from their socioecological context must be recognized as an extension of

classical logic and its binary categorizations. While its functionality in practice is widely

contested, capitalism in theory acts as a self-perpetuating system that yields a constant

augmentation of wealth and quality of life. It is with this charge that early capitalism arose,

> "driven by concentrated energy of individuals and small groups single-
> mindedly pursuing their own interests, checked only by their mutual
> competition, and controlled in the short run by the impersonal forces of the
> market and in the longer run, when the market fails, by devastating crises"
> (Sweezy, 2004).

Capitalist theory thus hierarchizes interpersonal competition and neoliberal market forces

as principal driving forces for economic and social wellness. To further understand the

logical mechanisms by which capitalism serves this purpose, Harold Kincaid delineates

eight fundamental aspects that underpin neoliberal economic theory. Among others, these

include "economic outcomes must be explained as entirely the result of individual choices", "those choices are rational", "rational choices are those that maximize self-interest given constraints", "choices are coordinated by markets", and "markets are best understood by focusing on full competition and equilibrium outcomes" (Kincaid, 1997). Thus, Kincaid reveals the influence of Enlightenment concepts like individualism and disengagement on capitalism's fundamental logical assumptions.

The system of neoliberal capitalism depends on these basic assumptions as it is codified and maintained through various mechanisms, specifically cost-benefit analysis and laws of supply and demand. Connected to Enlightenment notions of human nature, capitalist theory views consumers as rational actors inspired to act based on situational cost-benefit analyses. Rationality, as defined in much of neoclassical theory, signifies one's charge to act (consume) in a way that maximizes their personal benefit or utility; here, instrumentality is revealed as the impetus for decision-making in capitalism. By assuming that all actors within the capitalist structure are rational, it logically follows that people would not consume that which they do not need, and that producers would not manufacture that which people would not buy. From this, theorists propose neoclassical economics as a balanced system resulting in mutual benefit and communal social good. However, this proposed equilibrium often does not operate as its theoretical framework suggests. Cost-benefit analyses, for example, are explanatorily inadequate since commodities are often abstracted from their complex social, economic, and environmental networks. To exemplify this shortcoming, Park offers an example of the cost-benefit analysis as related to purchasing gasoline. As a consumer performs the assumed analysis from a rational perspective, they would necessarily consider gasoline's supply chain,

"where and how it was produced and used", along with its possible externalities on social and ecological ecosystems. However, within the increasingly globalized market, it is largely impossible for consumers to have total access to this type of information due to overwhelming number of actors in global oil supply chains, as well as the intentional abstraction of gasoline from its implications through marketing techniques that perpetuate gasoline as merely an interchangeable entity imbued with exchange value. Thus, to Park, within a system of neoliberal capitalism that has created such conditions, assumptions of the cost-benefit analysis upon which it operates are proving that, "in practice, capitalism is not functioning as it is supposed to" (Park, 2015)

It is also important to note that such costs and benefits are specifically *economic* costs and benefits; since modern western capitalist societies have not developed a conceptual system for organizing environmental or social cost-benefit analyses, non-fiscal implications are categorically excluded from capitalist theory. Economists Ackerman and Heinzerling argue that,

> "to weigh the benefits of regulation against the costs, we need to know the monetary value of preventing the extinction of species, preserving many different ecosystems, avoiding all manner of serious health impacts, and even saving human lives. Without such numbers, cost-benefit analysis cannot be conducted" (Park, 2015).

While there are current efforts to calculate the monetary value of environmental services such as mangrove water filtration and bee crop pollination, these costs have not entered the market on a global scale. For this reason, the current model of neoliberal capitalism rests on inadequate assumptions of consumers' ability to act rationally and perform cost-

benefit analyses. Even further, simply accounting for externalities within commodity costs would drive up prices and result in consumers, as actors within a rational choice model, choosing the cheaper item. Such challenges are evident in the Fair-Trade movement, as companies and organizations are up against a western consumerist conscience that conditions consumers to choose the cheaper product, regardless of its ecological and humanitarian costs. Thus, the fundamental logic of cost-benefit analyses renders neoliberal economics incapable of transforming exploitative extraction and consumption practices.

In addition to assumptions of cost-benefit analysis, neoclassical economic theory is underpinned by claims of the supply-demand mechanism. According to the law of supply and demand, consumers determine a product's demand based on their rational choices to consume products that ultimately benefit them. In reaction to the aggregate of these rational choices, producers are assumed to only supply the equilibrium quantity insofar as it is determined by the demand created by consumers. Thus, the capitalist system of consumers defining demand and producers reacting with equilibrium supply logically asserts itself as a system devoted to maximizing social good. Put differently, capitalism reinforces itself as a logical mechanism for social good as it assumes that individuals rationally consume to maximize their social wellness through cost-benefit analyses, and that the supply-demand mechanisms operate solely to produce goods and services in response to those rational decisions. Performing an analysis of capitalism's self-reinforcing nature within the constraints of classical logic would result in an argument in the following form:

Premise 1: Consumers always and only act rationally (in a way that maximizes social good) to determine demand

Premise 2: Producers always and only respond to consumer-created demand
with equilibrium supply

Conclusion: Producer-consumer/supply-demand mechanisms always and
only amplify social good

In addition to the aforementioned critique of the cost-benefit analyses which underpin the

supply-demand mechanism, processes of quantifying supply and demand are arguably

broken in their current manifestations. Park asserts, "the dynamics between supply and

demand are much more multifaceted than they seem on the surface" as producers

infiltrate the market of creating demand. Since rational consumer choices are not the only

driving forces behind demand, the basic foundations of capitalist theory begin to crack.

Park cites corporate advertising techniques as sources of "synthetic demand" that

essentially flips the supply-demand relationship as producers ultimately manufacture

consumer needs and wants, appealing to their own supply interests. Put differently, the

world of global marketing serves to sell consumers their wants and needs, convincing us

to buy their products to serve those wants and needs. To Park,

> "this is problematic because it means our scarce natural resources are being
> converted into cash for the mere sake of generating wealth for the supplier,
> and not in order to provide people with the things that they actually need and
> want."

Thus, this inversion of supply-demand relations reveals that modern economic growth

does not necessarily correspond to social benefit, as proposed by capitalist theory. In

fracturing some of the most basic assumptions to neoliberal capitalism, the broken cost-

benefit and supply-demand mechanisms propose current operations of capital as "gaping

fissures in the capitalistic logic of indefinite growth" (Park, 2015).

Since capitalism assumes a growth narrative of limitless expansion, it must provide

mechanisms to account for and respond to failures within the market. As a fundamentally

individualistic philosophy centered on consumption, capitalism counters criticisms of

limitless growth as inevitably destructive by asserting that human ingenuity will always

serve to balance imbalances or overcome scarcities within the system. Such claims of

individual responsibility to manage and regulate the market align directly with the

conceptual categories created by western modernity and early capitalist theory. As

Enlightenment philosophy and neoliberal capitalism normalize humans' abstraction from

and dominion over nature and assert instrumental rationality as a vital expression of

human agency, their relationship manifests within contemporary societal structures as a

feedback loop of sorts, serving to legitimize and perpetuate environmental destruction

and social hierarchy. While capitalist theory may tout itself as, "a simple system for

satisfying human needs" (Sweezy, 2004), current ecological, economic, and social

catastrophes prove that the mechanisms and consequences of market production are

much more complex than mainstream neoclassical economics seeks to portray.

III: Neoliberal Capitalism as an Instantiation of Enlightenment Knowledge
Classical Logic

In delineating the relationship between current socioeconomic structures of capital

and those ideological categories created by the Enlightenment project, it is necessary to

examine intersections of the logics which underpin both epistemologies. Further,

understanding the ways in which capitalistic philosophy operates in modern society

allows one to view its consequential systems of oppression and exploitation as merely

constructions of western thought, empowering thinkers to deconstruct and decolonize

current socioeconomic structures and their ideologies. This section will reveal neoliberal capitalism's assumptions as instantiations of the Enlightenment project, specifically as related to classical logic, disengagement, and individualism to critically evaluate modern western conceptions of self, environment, and others.

The expansion of capitalism since its widespread market debut in the 17th century has adopted specific ideological techniques to justify its mechanisms of domination over nonhuman and human communities. Since its inception, capitalism has been defined by the consumption of natural resources and exploitation of labor resources in pursuit of profit. Now, thinkers must examine its past 4 centuries of neoliberal expansion to understand the conceptual categories created and exacerbated by western capitalism that perpetuate systems of extraction, production, and consumption. Firstly, capitalist theory categorizes humans and nature as separate entities within binaries like those of the western hierarchy of being, placing man above all other sentient and non-sentient beings. This characterization clearly operates within the conceptual constraints of classical logic and the laws of exclusion and non-contradiction, stating that entities only exist insofar as their existence is categorized within humanity *or* nature. Thus, individuals conceive of themselves as innately outside of the natural ecosystems, reinforcing the conceptual binary of humans and nature and allowing for the exploitation of natural resources for human benefit; the climate crisis exemplifies consequences of this worldview that are facing our global community at an unprecedented rate.

Further, developed-undeveloped binaries emerge from the Enlightenment and continue to justify neocolonialist endeavors over non-western ideologies and cultures, especially those of Indigenous communities. This distinction thus leads to the relentless

extraction and consumption practices of 'developed' nations within 'undeveloped' or 'underdeveloped', resource-rich nations and communities. In accordance with binary classical logic and capitalism's progress narrative of exponential economic growth, global powers like colonial Britain and the contemporary United States assert themselves as morally, socially, and economically superior to more 'barbaric' states, justifying their imposition in developing new economies. Western capitalism thus exacerbates Enlightenment binaries within a logic of domination- like that of domination-submission- thus propelling and normalizing globalized systems of land and labor exploitation as necessary for real economic and social betterment. However, the climate crisis and its colonial implications on Indigenous communities elucidate the flaws in such an assumption, as capital projects like hydroelectric dams, oil pipelines, and forced agricultural intensification continue to sever interconnected ecosystems and delegitimize Native wisdom.

As discussed in Chapter 1, Indigenous wisdom operates within a paraconsistent logic which grants ontological validity to more than one value and embodies the fluidity and interconnectedness between all entities. In contrast, modern philosophy has created and normalized a system of classical logic within the west, characterized by binary laws and man's abstraction from the natural environment through frameworks like instrumental rationality and individual autonomy. In this way, Enlightenment parameters have arguably created the logical conditions for western industrial capitalism and its dominative instrumentality to emerge. Categorically, western modernity operates within strict binaries of true-false, culture-nature, and developed-undeveloped. In so doing, modern philosophy assumes itself as 'true', ideologically and epistemologically

hierarchical over other ways of knowing like Indigenous wisdom, necessarily deeming

them 'false'. Put differently, in accepting the logical conditions of the Enlightenment as

true, the binary structure (i.e. laws of non-contradiction and exclusion) of classical logic

necessarily deems itself as the *only* true way of knowing, delegitimating other knowledges

as false. As the preceding analysis has exposed, capitalist theory clearly operates within

these constraints of classical logic as it creates its own internal conditions for truth and

falsity and attributes such conditions to other ways of knowing.

Disengagement

Whereas Indigenous wisdom often embodies notions of interdependence and co-

stewardship of land, Enlightenment philosophy sought to extricate individuals from their

social and environmental ecosystems in order to gain objective understanding through

scientific inquiry. Francis Bacon and René Descartes arguably epitomize this project in

their devotion to categorizing the natural environment as devoid of rationality, as an

"object of control" (Taylor, 2010) merely existent for the advancement of human

knowledge. For example, Cartesian dualism holds rationality and its instrumentality as

central to the "true nature of being human", thus reinforcing man's hierarchy over a nature

which is ontologically deemed inert or irrational. For this reason, Indigenous scholar RDK

Herman argues that, "hierarchy is reified in Western thinking" in his critique of the radical

disenchantment implicit to both Enlightenment philosophy and the logic of industrial

capitalism (Herman, 2015). Similarly, as aforementioned, philosopher Charles Taylor

describes the Enlightenment as a project of "disengagement" that created ontological

dissonance between individuals and their environments (Taylor, 2010). This section

engages with frameworks provided by thinkers like Herman and Taylor in order to directly

connect Enlightenment themes of disengagement and disenchantment to capitalist ideology and its mechanisms. Specifically, this section will evaluate humans' disengagement from nature, workers' disengagement from means of production, and commodities' disengagement from supply chains and externalities within capitalist systems.

As global population rises and the influence of industrial capital spreads, communities are abstracted from their natural environments, especially in urban areas that are geographically removed from natural spaces. Within our rapidly commodified world, individuals often look to technology rather than nature for relief from wage labor's demands, as a sort of escape from their capitalist reality. As the means of production and thus employment opportunities were centralized to urban centers, groups of working-class individuals poured into these regions, further away from their previous homesteads or farming communities within the feudal period. Since this demographic shift was sparked with the advent of early capitalism, workers have remained structurally positioned within hyper-urbanized, densely populated cities, effectively creating and reinforcing Enlightenment notions of nature-culture binaries and disengagement.

Furthermore, within systems of neoliberal capitalism, hegemonic actors often exploit less developed nations under a façade of development aid, claiming to promote economic development in the respective region. Often in these regions, subsistence agriculture is overthrown by systems of dominative capital and Indigenous communities are forcibly entered into the global market, abandoning their intergenerational connections to land.

In a similar fashion to the aforementioned disengagement of humans from nature as a product of capitalistic expansion, such systems promote and necessitate workers and

consumers to disengage from the modes and means of production. Basic capitalist theory depends upon this abstraction in order to concentrate the ownership of resources and capital within the elite, ruling classes. In today's global economy, workers are systematically denied access to resources and operations within structures like transnational corporations. In pre-capitalist societies and many Indigenous economic systems, 'ownership' is commonly shared amongst members of the community, merely stratified by gender, age, or familial role. The imposition of global capitalism in such communities dismantles relatively egalitarian distribution of resources in search of increased efficiency and capital accumulation. While capitalist assumptions do not necessarily imply unequal distribution of accumulated capital, its mechanisms in a global market create necessary conditions for hierarchies to emerge through notions of disengagement and individualism.

Finally, capitalist philosophy as it operates today abstracts products from their social and ecological implications in order to increase consumption. The phenomenon of green washing exemplifies this process, as commodities are deemed 'eco-friendly' or 'sustainable' without market regulations that control such designations. Through multi-million-dollar marketing techniques, commodities that depend on the exploitation of land and labor are intentionally portrayed as environmentally friendly, encouraging consumers to purchase products that do not accurately reflect the complexities of their supply chains and production externalities. For example, in 2018, Starbucks Coffee Company introduced a new type of straw-less lid with the claimed motivation of environmental sustainability in decreasing straw consumption. While this product may seemingly propose a solution to rampant plastic use and pollution, the company continues to engage in highly exploitative

farming practices in Latin America, even deemed 'slave labor' according to Brazilian labor inspectors, on the basis of injustice from "forced labor and debilitating workdays", to "degrading conditions and debt bondage" (Brazilian Article 149). In this way, Starbucks' decision to promote itself as environmentally conscious through the production of a new disposable commodity exemplifies the capitalistic techniques that disengage commodities from their complex and often exploitative contexts, further normalizing hyper-commodification and unregulated consumption.

Individualism

Necessarily embedded in conceptual categories of disengagement and instrumentality is an individualism that creates the conditions for hypercompetitive systems of global capitalism to emerge. As previously mentioned, the basic capitalistic system is "driven by concentrated energy of individuals and small groups single-mindedly pursuing their own interests" (Taylor, 2010), placing the individual at the ontological center of all capitalist theory. Further, assumptions of cost-benefit analyses and supply-demand mechanisms rely on individual consumers and producers acting in ways which maximize their own benefits, amplifying the need for people in capitalist systems to conceive of themselves as individual units responsible for self-preservation. Capitalism's strict devotion to individual agency and reflexivity thus reflects implicitly individualistic Enlightenment practices and categories.

Within a post-Enlightenment framework that operates upon assumptions of instrumentality and individualism, capitalism often reduces interpersonal relationships between individuals to their instrumental value, abstracting individual actors from their social and ecological ecosystems. As shown in theories of Enlightenment philosophers like

Bacon and Descartes, disengagement was and remains central to western thought in order to obtain a level of objectivity to study and manipulate the environment, and arguably human nature, for human benefit. Capitalism, as an embodiment of Enlightenment values, abstracts humans from their natural and cultural ecosystems through assumptions of binary logic and disengagement, creating individualized conceptions of self and others. Clearly, such a relationship to human and non-human actors in the ecosystem is radically different from Indigenous ontology, as Indigenous scholar Herman articulates,

> "(the scientistic worldview) disenables us from understanding 'our embeddedness in and dependency on nature,' distorting 'our perceptions and enframings in ways that make us insensitive to limits, dependencies and interconnections of a non-human kind'" (Herman, 2015).

Rather than accepting and embracing the fluid relationality between and within socioecological systems, western "capitalocentric" thought operates under an individualistic economic logic that "externalizes ecological relations" (Casas, 2014) which are deeply embedded in Indigenous ontology. Thus, it is clear that capitalist theory finds its foundations in Enlightenment epistemology as rational, self-serving individualism is accepted as the natural state of human activity. For this reason, capitalist expansion becomes accepted by western communities as the natural evolution of human thought, as it operates directly within the categories of our historically accepted progress narrative.

IV: Conclusion

As seen in current manifestations of the climate crisis and its disproportionate impacts on structurally vulnerable communities, industrial capitalism continues to exploit and destroy communities of human and non-human beings alike. In critiquing such structures

of exploitation, it is necessary to deconstruct their most fundamental assumptions and historical underpinnings. Understanding modern capitalism as an instantiation of Enlightenment philosophy can reveal the logics of industrialization and capitalism as connected to western modernity in a "rhizomatic network" containing mechanisms like "commodification, profit-seeking, corporatization, and privatization; hierarchical command and bureaucratic administration; exploitation of technoscience and expertise; electronic information networks and profit-making goals; and structures of state military repression, coercive violence, and prison to enforce institutional power". Thus, the philosophical relationship between the Enlightenment and neoliberal capitalism creates and exacerbates individualism and hyper-competition, "rendering the world as something abstract, functional, calculable, and controllable, while transforming any and all things and beings into commodities manufactured and sold for profit". Put differently, "in both science and capitalism, an aggressive nihilism obliterates intrinsic value and reduces natural, biological and social reality to instrumental value, viewing the entire world from the interest of dissection, manipulation, and exploitation" (Best, 2011). In his critique of the global industrial complex and its specific ontological and epistemological commitments, Best calls readers to critically evaluate the conceptual categories of nature and culture as normalized by systems of western capital, effectively urging western thinkers to question the ideologies which we take for granted as true or natural within the Capitalocene[6]. Similarly, the following chapter serves to expose philosophical and material

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[6] The term "Capitalocene" is used to describe the current global era in which global systems of capital are the driving force of environmental impact and shaping the Earth's ecosystems, often attributed to unprecedented pollution and ecological destruction as consequences of extraction, production, and consumption practices since the Industrial Revolution.

shortcomings of western modernity and capitalism and their most basic assumptions in

addressing the climate crisis, serving to expose the necessity of including Indigenous

wisdom in climate discourse.

Chapter 3: On Explanatory Power and Effectiveness: A Comparative Analysis of Indigenous Wisdom and Western Capitalism in the Climate Crisis

I: Indigenous and Instrumental Logic: A Rectifiable Theoretical Dissonance

Although the previous chapters have exposed and highlighted the theoretical and logical differences between Indigenous and western knowledges, it is important to note that their divergences do not necessarily render cross-cultural cooperation impossible. In fact, as I will argue in this section, an integrated and collaborative spirit between members of both ontologies is vital to enacting transformative grassroots change, especially against climate change. For this reason, this section further explains the fundamental conceptual dissonances between non-western and western "life-worlds" (Ingold, 2000) as related to their relational and disengaged ontologies, respectively, with respect to climate policy and discourse. In examining both ways of knowing, I remind readers of categorical differences between Indigenous and instrumental knowledge; however, I urge readers to reject the western impulse to categorize phenomena within binaries and to embrace fluidity in this critique. Rather than attempt to entirely discredit the western capitalist worldview, this critical section serves to reveal those foundational cracks within modern capitalistic society that may be mended through cooperation with Indigenous wisdom. Overall, this chapter seeks to expose and explain the transformative power of cross-ideological cooperation in addressing our planet's most pressing ecological crises.

Implicit to the relationality of Indigenous wisdom is the notion that the well-being of humans and their social groups is directly and intimately shaped by the state of their

surrounding natural ecosystems.7 Operating within a paraconsistent logic, Indigenous

knowledge rejects hierarchies of being with strict binary categories and rather embraces

fluidity as a relational ontology. Thus, members of Indigenous communities commonly

conceptualize themselves, their fellow community members, and their natural

environments as inextricably connected to one another through some imbued spirit or

energy. Emergent categories from Indigenous wisdom create an interdependent ecosystem

of human and non-human actors, where soil and trees share ontological validity with living

humans and our ancestors. Such a worldview provides a lens through which to view the

impacts of climate change that counters hegemonic assumptions of Enlightenment

philosophy in western capitalist states like the United States.

   Many non-western, and especially Indigenous, worldviews define oneself by their

positionality in a complex ecosystem of atemporal social, cultural, and ecological relations.

This understanding of the world is clearly in contrast with modern western philosophy and

its disengaged, instrumental position toward the environment and society. It is therefore

essential for movements against climate change led by western and capitalist nations to

understand and legitimize holistic Indigenous worldviews that have been historically

erased in pursuit of western scientistic knowledge to deconstruct and decolonize current

approaches to climate change mitigation, and open new spaces for collaborative and

critical discourse. This chapter revisits Indigenous and western conceptions of self,

environment, and others to examine the disproportionate ideological and material

implications of environmental crises on Indigenous peoples; this chapter further reveals

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7 It is important to note that such binary distinctions between 'sociocultural' and 'natural' phenomena do not necessarily exist within Indigenous knowledge; rather, their use here is intended to provide clarity for readers whose conceptual categories are defined within the constraints of classical logic.

the transformative potential of incorporating relational ontologies in climate change mitigation.

   In an attempt to reveal the fundamental dissonance between western and non-western ontologies, Tim Ingold asserts the following:

> The contrast, I repeat, is not between alternative views of the world; it is rather between two ways of apprehending it, only one of which (the Western) may be characterised as the construction of a view, that is, as a process of mental representation. As for the other, apprehending the world is not a matter of construction but of engagement, not of building but of dwelling, not of making a view of the world but of taking up a view in it" (Ingold, 1996).

Here, Ingold reinforces Indigenous concepts of relationality and fluidity as he poignantly contrasts 'construction' and 'building' with 'engagement' and 'dwelling', respectively. While western ontology views the natural world as 'out there', detached from human society and vulnerable to human manipulation, non-western "ontologies of dwelling" (Ingold, 2000) represent the social environment as deeply embedded within and inextricable from natural ecosystems. Thus, Ingold argues, "ontologies of dwelling" provide us with alternative and better ways of understanding the "nature of human existence" than those provided by western knowledge. Since dwelling-based lifeworlds are shaped by the energy of ecosystems and embrace both human and non-human actors, ecological and social relations are valued and understood for their innate meaning, rather than through meaning as constructed within categories of western anthropocentric thought. Intergenerational, localized, ecological knowledges embodied in most Indigenous communities clearly reflect ontologies of dwelling and thus offer an alternate framework through which western climate discourse may view global climate crises.

Specifically, Ingold notes the western ontological assumption that humans operate with our "mind(s) detached from the world" in order to construct a lifeworld within our own consciousnesses that is not dependent on or interconnected with surrounding natural ecosystems. Such was the charge of the Enlightenment: to disengage oneself from nature to remain objective in studying and manipulating its resources for human benefit, while also searching for the existence of rational truths through mechanisms of classical logic. In this way, one may begin to see the relatively narrow ontology provided by western thought in which humans build and construct conceptual categories to understand the world, solely within the confines of mental processes. By assuming that humans and their mental representations exist outside and above the natural environment, western ontology arguably disregards the innate connections between human and non-human actors that shape environments, dividing experience into two distinct worlds: society and nature. Clearly this perspective of a disengaged, individualistic world constructed entirely by mechanisms of instrumental rationality influences western conceptions of climate change and its mitigation.

 In contrast, non-western ontologies weave humans intricately within their natural ecosystems, allowing knowledge to emerge from ecosystemic relations and intergenerational wisdom. As opposed to the implicitly individualistic ontology of the west which depends on humans' abstraction from the natural environment and constructs knowledge from human rationality, non-western hunter-gatherer[8] wisdom assumes the

[8] It is important to note that while Ingold's research is specifically devoted to understanding dwelling and livelihood within Indigenous hunter-gatherer communities, those Indigenous peoples operating within complex material economies also function within an ecosystemic "economy of knowledge" that rejects western hierarchies of being and nature-culture binaries. For this reason, I will adjust Ingold's hunter-gatherer delineation to the broader category of Indigenous wisdom to critically examine fundamental assumptions of non-western and western economies of knowledge.

existence of one undivided lifeworld in which experience takes place. The following
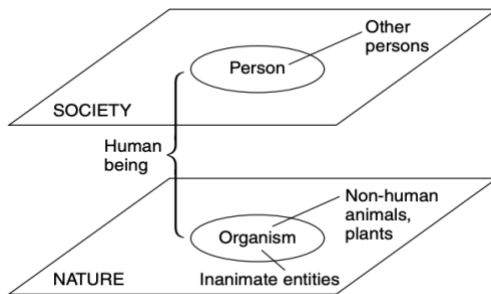
diagrams demonstrate this dissonance:

Figure 1: Western "economy of knowledge" in which society and nature operate as distinct lifeworlds (Ingold, 2011)
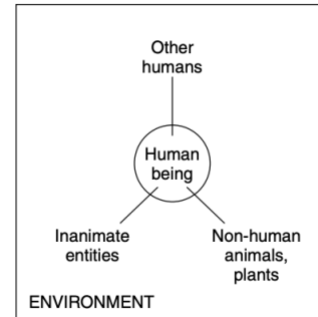

Figure 2: Hunter-gatherer "economy of knowledge" that positions humans within a larger environment, connected to other humans and non-human entities (Ingold, 2011)

As portrayed in this comparison, there exist fundamentally divergent assumptions under

which knowledge is formed in western and Indigenous communities. Ingold's use of

"economies of knowledge" shows that knowledge is formed, shared, and learned through

cultural frameworks.

Providing epistemological frameworks through which meaning is understood,

economies of knowledge are foundational to holistic cross-cultural analysis and are thus

central to the arguments in this chapter. To critically examine current climate discourse

and propose new cooperative approaches, one must recognize and understand the

ontologies and lifeworlds through which western and Indigenous communities view nature

and society. Figures 1 and 2 demonstrate the tendency for Indigenous knowledges to reject

western categorical binaries (i.e. society-nature, person-organism, persons-non-human

animals, plants) and instead embrace an ecosystemic view in which 'environment'

encompasses all living and inanimate entities. Further, as shown in Figure 2, non-western

economies of knowledge place humans as inextricably connected to other persons, non-

human animals, plants, and inanimate entities which comprise a shared environment. In Bird-David's ethnographic research with Batek and Mbuti, he notes that hunter-gatherers "do not inscribe into the nature of things a division between the natural agencies and themselves, as we [Westerners] do with our "nature:culture" dichotomy. They view their world as an integrated entity" (Bird-David 1992). Instead,

> "there are not two worlds, of nature and society, but just one, saturated with personal powers, and embracing both humans, the animals and plants on which they depend, and the features of the landscape in which they live and move. Within this one world… there is no absolute separation, they are but contextually delimited segments of a single field." (Ingold, 2000)

Lifeworlds emergent from Indigenous conceptions of self, environment, and others deeply integrate all entities within localized cultural ecologies to shape understanding. For this reason, it is clear that climate change and its consequences intimately and disproportionately impact Indigenous communities across the planet. Current international climate discourse, as dominated by western capitalist states, both implicitly delegitimates non-western knowledge through aforementioned mechanisms of classical logic and materially marginalizes Indigenous communities through structural exclusion of Indigenous voice. The following section will reveal and critique the colonial underpinnings of current western climate discourse, further describing how international response often perpetuates systems of colonization and exploitation.

II: Incapacity and Coloniality: Capitalist Approaches to the Climate Crisis

We must recognize and critique generations of Indigenous exclusion and erasure resulting from the emergence of capital, in order to fully understand the transformative

potential and necessity of Indigenous recognition in the United States, especially as it relates to scientific discourse surrounding climate change. For this reason, I encourage western readers to critically examine extant (neo)colonial ideology in current perspectives toward and approaches to climate change. Critically examining implicitly colonialist assumptions in western capitalism reveals the epistemic obstacles and insufficiencies of such structures to address climate change.

It is firstly important to revisit the notion of instrumentality as operant within current systems of global capital and western modernity. Emergent from the Enlightenment, instrumental rationality continues to shape conceptual categories and thus inform perspectives of western thinkers. Further, as described in Chapter 2, current structures of neoliberal capitalism normalize and exacerbate Enlightenment instrumentality as humans are increasingly disengaged from our natural and social ecosystems, individualized as competitive, alienated consumers and producers within the global market. Capitalism, as informed by the Enlightenment, regards natural entities (both human and non-human) as instrumental resources, defined by their ability to serve specifically anthropocentric, individualistic, and often economic ends. Put differently, capitalism abstracts our relationships to society and nature from their inherent value or meaning, normalizing individualism and competition to legitimate its own narrow, dominative perspective toward the environment. Exemplified by unprecedented rates of ecological destruction and climate change in recent decades, this neocolonial stance toward (and consequent manipulation of) cultural and natural resources has proven to be untenable. It is important to critique western capitalistic responses to climate change that operate within those same systems which perpetuate planetary devastation, in order to effectively decolonize climate

discourse and foster ecosystemic change through cross-ontological engagement between western and Indigenous activists, researchers, and academics alike. Therefore, in this section, I will argue that market-based approaches are ideologically and materially incapable of mitigating our shared global climate crisis by exposing their narrow, implicitly colonial assumptions.

The worldview promoted by neoliberal capitalism is constructed by notions of instrumentality, exploitation, and individualism in which natural resources are valued for their potential as "commercially viable... fungible commodities and monetary wealth" (Park, 2015). Further, basic assumptions of exponential and relentless extraction, production, and consumption coupled with its position toward human ingenuity render capitalism "incapable of correcting climate change" since "we live in a world of finite resources and, as incredible as the power of human innovation has proven itself to be, even ingenuity has its limits" (Park, 2015). Market-based approaches to the climate crisis like carbon taxes and technological infrastructure depend on the anthropocentric assumption that monetary investment and human innovation are sufficient mechanisms for mitigating climate change. However, capitalist theory implicit to these mechanisms necessarily depends on the very ideologies of consumption and production that are widely responsible for anthropogenic climate change.

As delineated in Chapter 2, there is a battle between environmental policy and the conscience of consumerism in western capitalist culture. This collective understanding encourages individuals to choose products merely on the basis of monetary price within the constraints of neoliberal cost-benefit analyses, ignoring social and ecological externalities of products or decisions. This ideological conflict is seen in Australia's failed

attempt to implement a state-wide carbon tax. According to Park, "on July 1, 2012, Australia became the first country to adopt an explicit, national carbon tax, and on July 17, 2014, Australia became the first country to repeal a national carbon tax" as cost-benefit analyses- and Prime Minister Abbott- deemed the strategy "useless and destructive". Without accurate methods to quantify environmental benefits within the conceptual constraints of neoliberal capitalism, corporations and lawmakers rejected the tax merely for its immediate economic costs, "claiming that it would destroy jobs and cause electricity prices to soar" (Park, 2015). In this way, Australian climate policy exemplifies the inability for capitalism to correct itself and its consequences.

Through binary assumptions of classical logic, individualism, and disengagement, Enlightenment philosophy certainly influences western capitalism's inability to recognize or address its own conceptual and material faults. Put differently, "ignorance and disapproval are often tied to colonial, imperial, and other discriminatory attitudes and institutions of science toward "non-Western" knowledge systems", asserts researcher Kyle Whyte in his philosophical study of traditional ecological knowledge as a collaborative concept. In assuming its own epistemological validity, western modernity "systematically 'otherizes'" other ways of knowing; this process is clearly exemplified through the continued marginalization of Native American communities since Europeans invaded Native North and South American lands beginning in the 15th century. As millions of Native Americans were killed through the duration of the colonial era, so was the legitimacy of their knowledge. Firstly, Europeans forcibly converted Indigenous communities to Christianity and demanded their participation in localized market economies. With the rise of Enlightenment values and capitalism in the 17th and 18th centuries, remaining

Indigenous communities in North and South America were forced to adopt practices of western science and fully integrate into early structures of capital (LaDuke, 1994). Such domination was, and remains, legitimate to western thinkers due to conceptual commitments to binaries of truth-falsity, civilized-savage, society-nature. This brief sociopolitical history of Indigenous knowledge's structural erasure reveals coloniality as the underlying philosophy for modernity and its epistemes, especially that of neoliberal capitalism, which motivated the project of colonial expansion in a quest for resources and land. According to LaDuke,

> "in the consistent dismissal of both native values and property rights in a North American political context, even in the context of the "left" and the environmental movement, there remains a subliminal fear of the indigenous- a residue of colonialism and the colonial mind" (LaDuke, 1994).

In this way, western market-based approaches to climate change are fundamentally constructed upon hegemonic assumptions of colonization and erasure of physical Indigenous communities through colonial genecide and continued erasure of Indigenous voices and worldviews.

   Given the aforementioned ideological insufficiencies and colonial underpinnings, it is clear that western modernity and its systems of capital offer a limited, exploitative lens through which to view the planet's most pressing socioecological issue: climate change. In the following section, I will elucidate the ways in which Indigenous wisdom can support, augment, rectify, and transform current hegemonic climate discourse.

III: Possibilities of Another Knowledge

Sami scholar Rauna Kuokkanen brings attention to the transformative power of incorporating Indigenous wisdom into discourse guided by western scientific knowledge in their call for "multi-epistemic literacy" in response to the question, "are western science and traditional knowledge incommensurable?" (Herman, 2015). Within a structure of multi-epistemic literacy, dialogue and learning are engaged "across these two approaches to knowledge", serving to rectify continued debates surrounding the dissonance between western and non-western worldviews. Through cross-cultural discourse and political inclusion, Turnbull argues for the creation of "a third space, a space in which the possibilities of agonistic pluralism can occur based on a performative rethinking of knowing and mapping" and where "dialogical tension is useful and productive" in creating such structural change. In reference to the climate crisis, multi-epistemic literacy depends on holistic and critical understanding of both Indigenous and western frameworks to thoughtfully incorporate historically marginalized perspectives into dominant systems.

Devoted to understanding the political economy of neocolonialism as it impacts Native American communities and consciousness, Indigenous scholars and activists Deborah McGregor (Anishinaabe, Whitefish River First Nation in Ontario) and Winona LaDuke (Anishinaabe of the White Earth Reservation in Minnesota) reveal the ideological and material impacts of cross-cultural discourse between western science and traditional knowledge. This section is similarly charged, as it explores the transformative possibilities and necessity of including Indigenous perspectives in environmental policy which is historically dominated by western powers. Further, this section examines current efforts to include Indigenous communities in climate discourse across the globe.

To begin with, one must recognize the multi-faceted logic for non-western ontological legitimacy; in theory *and* in practice, Indigenous knowledge offers unparalleled access to holistic change. Conceptual categories embodied in Indigenous wisdom, as delineated through this paper, understand natural and cultural environments as inextricably united and reject western binaries that seek to disengage and individualize humans from our ecosystems. In so doing, it is clear that non-western responses to climate change are informed by notions of cooperation, coexistence, and reciprocity as both human and non-human actors are considered to be imbued with spirit and energy. Climate mitigation strategies constructed from this worldview can offer novel ideas to western discourse that fundamentally assumes an ontological dissonance between nature and society.

In addition to Indigenous wisdom's ability to categorically expand the western worldview through a framework of paraconsistent logic, Indigenous communities are materially positioned to more deeply understand the natural environment and environmental crises than westerners, as livelihood is inseparably rooted in ecological wellness. Commonly, as described in Chapter 1, non-western populations depend on small-scale subsistence agriculture and horticulture for survival and view the natural environment as an active participant in this reciprocal interaction whereby the land gives itself for human use. Further, these relations are commonly understood through an ancestral lens; ecosystem health is directly correlated to the state of ancestors residing as the land. Since subsistence lifestyles intimately depend on the health and wellness of natural ecosystems and thus ancestral energy, consequences of climate change like sea level rise, erratic weather patterns, and global warming impact much more than material yield for Indigenous communities. While western systems of intensified, industrialized agriculture are

nevertheless impacted by climate crises as yields decrease and arable land is disturbed, westerners do not ultimately experience the ideological and cultural devastation as in Indigenous communities. In this way, legitimating and collaborating with non-Indigenous experiences and technologies will necessarily enrich extant western scientific climate discourse. In harmony with McGregor's claim that, "uncritical belief in Western science and technology as the only valid approach to resolving environmental problems has fallen by the wayside... [western] science and technology, at least on their own, cannot get us out of the situation we are now in" (McGregor, 2004), I will examine cooperative environmental management and "coexistence" (Whyte, 2013) within the climate crisis to reveal Indigenous wisdom as a mechanism for structural transformation.

As found in anthropological research centered on cross-ontological climate discourse between the Ecuadorian government and Kichwa-based cosmovision, "traditional belief systems in the developing world can strongly support worldwide mitigation efforts toward climate change... these traditional views complement—rather than conflict with—Western science." (Eisenstadt et al, 2016). In Ecuador, Eisenstadt and West engage with local governmental and grassroots organizations committed to including Indigenous voices in climate policy, recognizing the legitimacy of traditional knowledge as "empirically tested and testable understandings of ecosystem health and relationships (Whyte, 2013). For example, the Coordinating Body for Indigenous Peoples' Organizations of the Amazon Basin (COICA) was formed in 1984 with the recognition of western science as central in quantifying and mitigating climate change, but also insists that non-western, traditional cosmovisions continue to make Indigenous communities "ideal stewards" of lands impacted by climate crises (Eisenstadt et al, 2016). As stewards intimately connected to

nature, COICA advocates for Indigenous political inclusion at local, national, and international levels, arguing that intimate ecological knowledge and techniques of living in accordance with the natural environment can add an insider perspective on mitigation techniques and progressive ideas for future generations.

This mission has proven widely successful in Amazonian regions of Ecuador and Bolivia, where climate policy is often a collaborative effort between hegemonic state powers and local Indigenous communities. One-on-one interviews with Indigenous leaders and activists in Ecuador and Bolivia revealed that Indigenous leaders often call for scientific and technological advances in restoring balance and improving long-term environmental quality. In an interview with Carlos Pérez of the powerful national Andean ECUARUNARI indigenous movement organization, Pérez states that,

> "Western science is an important tool which should not be dismissed, but all
> its data justify the Andean peoples who say we should not rebel against nature;
> we should not rebel but nature is our mother people and the land who
> deserves all of our protection."

With this assertion, Pérez exemplifies the aforementioned rectifiability of western science and Indigenous wisdom; "to these advocates, the Andean peoples' protection of nature is still the objective, but they acknowledge Western science as an important means to achieving this end." (Eisenstadt et al, 2016).

In Bolivia, decision makers are embodying the argument that,

> "it is only when we move away from the sterile dichotomy between indigenous
> and western, when we begin to recognize intra-group differentiation; and
> when we seek out bridges across the constructed chasm between the

traditional and the scientific, that we will initiate a productive dialogue to safeguard the interests of those who are disadvantaged (Agrawal, 1995).

In 2009, President Evo Morales called on the General Assembly of the United Nations to develop the "Universal Declaration of the Rights of Mother Earth" in solidarity with Indigenous communities across the Amazon basin. The Declaration is founded on the following principles:

> "indigenous peoples are part of Mother Earth in an interrelated and interdependent way, sharing a common destiny; Mother Earth is the source of life, nourishment, and learning; the capitalist system has caused grave damage to Mother Earth 'putting life as we know it today at risk through phenomena such as climate change'; and it is impossible to recognize only the rights of human beings" (World People's Conference on Climate Change [WPCCC], Rights of Mother Earth section).

This piece of legislation clearly exemplifies cross-ontological engagement and understanding in creating climate policy, as Indigenous cosmovisions are directly legitimated and hegemonic western systems of capital are critiqued as exploitative. Further, theoretical dissonance between western and non-western knowledge is rectified as Indigenous legitimacy is granted within a neoliberal framework of universal rights on an international scale. In this way, westerners may begin to appreciate the power of cooperation and coexistence with Indigenous communities; such a paradigm shift would implicitly recognize that traditional knowledge "exists in parallel to western science", thus encouraging "respectful learning" through joint political relationships (Whyte, 2013).

  While corruption and globalized neoliberal influence undoubtedly complicate the legitimation process and often prove to impact policy decisions in regions like Latin

America, cooperative organizations like COICA and legislature like the Universal

Declaration of the Rights of Mother Earth provide a framework by which other nations, like

the United States, may begin to understand the impact and necessity of co-management

and coexistence. Even further, according to scientist and educator Robin Kimmerer,

> "[Indigenous wisdom] may also extend its explanatory power beyond the
> strictly empirical, where science cannot go. . . In Indigenous science, nature is
> subject, not object. . . Embraced as an equal partner to the power of Western
> science, [Indigenous wisdom] offers not only important biological insights but
> a cultural framework for environmental problem solving that incorporates
> human values (Kimmerer, 2002)"

Recognizing and appreciating the ideological and practical necessities for collaborative

environmental stewardship can guide 21st century climate discourse toward meaningful

and transformative structural change for current and future generations. It is only after

western thinkers decolonize our conceptual categories as we relate to our shared

environment that such change may occur, and Indigenous wisdom may take a seat at the

table from which it has been historically and structurally denied.

Conclusion: Moving Toward Multi-Epistemic Climate Discourse

In an effort to remind readers of the necessity for communal action after engaging with this paper's applied theoretical perspective, this concluding chapter will explore case studies of Indigenous peoples' structural vulnerability to two global crises: climate change and the COVID-19 pandemic. As extant socioeconomic and geopolitical structures begin to shift in response to these pressures, our shared moral obligation becomes increasingly evident. Grassroots movements committed to fostering ecocentric, cross-cultural cooperation between western and Indigenous communities must recognize the importance of action in our current global climate. Now more than ever, counter-hegemonic worldviews are essential to the well-being of our natural and cultural environments. However, dominant western, market-based paradigms still continue to place Indigenous people in structurally vulnerable spaces. Understanding the similar situations of Indigenous climate refugees and Native Americans impacted by COVID-19 reveals the disproportionate, intergenerational, and systematic discrimination of nonwestern people in the modern west. Further, this chapter calls readers to reflect on these crises as sources of inspiration and radicalization while applying the central arguments of this paper as a framework to guide transformative action.

On the three-mile-long island of Shishmref in Northwestern Alaska, Kigiqtaamiut cultural sovereignty is threatened by the impacts of climate change. As storms grow in intensity and sea levels rise to erode shorelines, Shishmref is shrinking away with its ancestral significance to the Kigiqtaamiut. Residents are forced to abandon these uninhabitable lands, severing spiritual ties, and seeking refuge from the consequences of climate change. Furthermore, the unpredictability of these consequences effectively

undermines the omniscience of wise men and their shamanistic understanding of weather patterns, dismantling cultural identity and structures of knowledge. Relational ontologies like that of the Kigiqtaamiut reveal the disproportionate spiritual and cultural impacts of environmental degradation of Indigenous peoples. According to Shishmref native Jonathon Weyiouanna, "if we fail, we'll disappear. Our special culture, our community traditions like sharing and respect for our ancestors, our subsistence economy- everything that makes us a unique community will perish…," (Argos, 2011). Here, Weyiouanna describes the liminal vulnerability of many Indigenous climate refugees who must relocate to non-traditional lands without guarantees of state support. Further, histories of structural exclusion of Indigenous knowledge in the United States deny Kigiqtaamiut access to economic or political power to compete with state's market-based interests. For the Kigiqtaamiut, as for many climate refugees, their relocation project is contingent on state funding and vulnerable to the implicitly hierarchical mechanisms of capitalist logic- such as cost-benefit analyses- that necessarily delegitimate Indigenous wisdom. In this case, it is clear that perceived theoretical dissonances between western and nonwestern ontology are directly connected to the marginalization of Indigenous peoples and their land.

A parallel case to the disappearing Shishmref island is found in northern Scandinavia, in Europe's only officially recognized Indigenous culture: the Saami people. Many Saami maintain cultural practices of reindeer pastoralism as an intergenerational, "subsistence strategy with family-based working communities" (Stoyanova, 2013) that depends on intimate ecological knowledge and relational understanding of animal behavior. Traditional practices of "natural resource-based economic activities" (Stoyanova, 2013) like small-scale horticulture and reindeer pastoralism are widely responsible for

Saami economic stability and cultural expression. These practices also serve to reinforce

Saami ideology as the ecosystem is perceived as an autonomous agent in providing for

human wellness. Put differently, Indigenous wisdom in Saami communities manifests as an

understanding of traditional agricultural practices committed to the interconnectedness

and interdependence of humans and non-humans. However, melting ice caps and rising sea

levels are opening new passages for trade and manufacturing across northern Europe, thus

increasing industrial development and exploitative commercial interests in Saami

territories. Grazing lands are replaced by mining facilities, food supplies have diminished

below a level of subsistence, and rising temperatures perpetuate the dissemination of

parasites and disease within the ecosystem. In response, Saami people are advocating for

Indigenous recognition and calling industries to halt expansion and degradation in the

region. 2007 marked a transformative moment as locals, in collaboration with UArctic,

launched the *EALÁT Reindeer Herders Vulnerability Network Study* (Stoyanova, 2013) to

promote intercultural research. According to the study's mission statement,

> "EALÁT focuses on the adaptive capacity of reindeer pastoralism to climate
> variability and change and, in particular, on the integration of reindeer
> herders' knowledge in the study and analysis of their ability to adapt to
> environmental variability and change." (EALÁT, 2007)

Since 2007, the interdisciplinary and intercultural study has been completed, and its final

conclusions are underway. The organization continues to sponsor ongoing education and

advocacy work in Indigenous and non-Indigenous communities across the region. Although

Saami livelihood is still threatened by the externalities of industrial production, EALÁT

exemplifies the possibility for grassroots community outreach and cross-cultural discourse to impact and transform systems that exacerbate climate change.

It is necessary to recognize and understand the multifaceted nature of Indigenous structural discrimination. While the climate crisis and its capitalist roots clearly impact Indigenous communities disproportionately to western communities, climate change is not the only global phenomena which structurally targets Indigenous people. Since the colonial period, Native Americans have been excluded from access to public health resources through forced removal from ancestral lands, federal policies, and economic insecurity. According to the National Congress of American Indians, "American Indians are 600 times more likely to die of tuberculosis and nearly 200 times more likely to die of diabetes than other groups. More than a quarter under age 65 lack health insurance." (NCAI, 2018). Lacking systemic access to education, healthcare, and economic opportunities, American Indian reservations- especially the Navajo Nation- are disproportionately devastated by the current COVID-19 pandemic. The Navajo Nation has reported more coronavirus cases than any other Native American tribe, with an infection rate 3 times that of the general populace of the United States (CDC, 2020). Kevin Allis, chief executive of the National Congress of American Indians, comments on the pandemic,

> "when you look at the health disparities in Indian Country — high rates of
> diabetes, cancer, heart disease, asthma and then you combine that with the
> overcrowded housing situation where you have a lot of people in homes with
> an elder population who may be exposed or carriers — this could be like a
> wildfire on a reservation and get out of control in a heartbeat" (Hedgpeth et
> al, 2020).

The spread of this "wildfire" is exacerbated by the economic insecurity caused by the shutdown of casinos and tourism that funds Native American ways of life. As the thirteenth largest employer in the United States, tribal gaming operations entail a workforce of about 640,000 American Indians. In Cherokee casinos, for example, halted operations have led to a loss of $40 million per month. Even further, social distancing orders and subsequent separation of children from elders are "at odds with the Cherokee culture… going against the natural inclination of Cherokee Nation" (Hedgpeth et al, 2020). The intergenerational, ancestral, relational ontologies of Indigenous wisdom are clearly reflected in this statement, as familial ties are central to Cherokee livelihood and cultural understanding.

Examples of Kigiqtaamiut and Saami climate refugees in connection with stories of COVID-19's impact on Navajo and Cherokee reservations reveal the structural vulnerability of Indigenous people across the world. Further, these plights expose the shared experiences of nonwestern communities which have been historically excluded from political and social discourse. However, such examples do more than call attention to systemic oppression of Indigenous people; understanding climate and health crises through an intercultural lens allows thinkers to deconstruct and critically evaluate the ideological and cultural systems within which we are socially conditioned to operate. In collaboratively discussing Indigenous struggle and resistance, we may begin to critique the fundamental assumptions of western modernity and mend the foundational cracks in capitalist society.

As we enter times of global uncertainty in the COVID-19 crisis, I urge engaged thinkers to recognize our undeniable interdependence on other humans and our natural ecosystems. RDK Herman makes a similar call-to-action in stating, "the emptiness of

modernity summons an aching for Indigeneity, for a connection to a more meaningful

world and a more integrated way of being in it" (Herman, 2015). Rather than strategizing

how to maintain capitalist normalcy during this unprecedented global era, let us reject

hierarchical binaries, embrace the fluidity of alternate knowledges, and adopt inalienable

responsibilities to each other and our environment. Transformative grassroots change will

necessarily follow from such theoretical engagement with systematically otherized

communities and their ontologies.

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