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Citation: Banerjee, S. B. ORCID: 0000-0002-8699-6368 and Arjaliès, D-L. (2021). Celebrating the End of Enlightenment: Organization Theory in the Age of the Anthropocene and Gaia (and why Neither is the Solution to Our Ecological Crisis). Organization Theory,

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Celebrating the End of Enlightenment:

Organization Theory in the Age of the Anthropocene and Gaia (and why Neither is the Solution to Our Ecological Crisis)

Enlightenment is man's release from his self-incurred tutelage. Tutelage is man's inability to make use of his understanding without direction from another. Self-incurred is this tutelage when its cause lies not in lack of reason but in lack of resolution and courage to use it without direction from another. Sapere aude! 'Have courage to use your own reason!' - that is the motto of enlightenment.

Immanuel Kant (1798)

Protection and enhancing the world's forests is one of the most cost-effective forms of climate action: forests act as carbon sinks, absorbing roughly 2 billion tonnes of carbon dioxide each year. Sustainable forest management can build resilience and help mitigate and adapt to climate change. Forest-based climate change mitigation and adaptation actions, if fully implemented, could reduce greenhouse gas emissions by around 15 gigatonnes of CO₂ a year by 2050, which could potentially be enough to limit warming to well below 2°C (the target set by the international community in 2015).

United Nations (2019)

English is so hierarchical. In Cree, we don't have animate-inanimate comparisons between things. Animals have souls that are equal to ours. Rocks have souls, trees have souls. Trees are 'who,' not 'what.'

Tomson Highway (2005)

INTRODUCTION

Organization theorists, at least of the European variety, appear to be enchanted with the Enlightenment and worry that its lessons might be forgotten. In a post-truth era of alternative facts democracy is under assault, and a reengagement with the treatises of thinkers like Descartes, Kant, Smith, Spinoza, Voltaire, and Hume could help restore faith in institutions and organizations by recovering Enlightenment ideals of liberalism, rational debate and the pursuit of knowledge. But is there another narrative, one that is somewhat murkier and less celebratory? If for Kant, the Enlightenment represents a moment where reason is used to serve humanity without subjecting itself to any authority, a critique of the tyranny of reason is

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3 necessary to define the boundary conditions that determine the legitimate use of reason – the
4 Enlightenment thus is not just the age of reason but also the age of critique (Foucault, 1984).
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6 While the Enlightenment has enabled emancipation, human rights, democracy, and freedom
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8 through its much-celebrated exercise of reason, it has also led to colonialism, imperialism,
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10 slavery, and crimes against humanity, ironically through the same ‘reasoning’ (Dhawan, 2014).
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12 Enlightenment rationality is deeply embedded in the idea of Empire, whose mission involved
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14 political subjugation of those it sought to empower and civilize. There appears to be little
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16 awareness among Enlightenment thinkers that their much-celebrated use of reason created new
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18 forms of domination, even more insidious than coercive power because these forms of
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20 domination have been vindicated by reason itself (Adorno & Horkheimer, 1997). While
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22 European historical narratives celebrate the Enlightenment as a liberating and progressive
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24 force, histories of Indigenous peoples that have borne the brunt of the Enlightenment project
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26 tell different stories: of genocides, colonial domination, environmental destruction, disease,
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28 cultural devastation, and spiritual impoverishment (Dhawan, 2014; Goldberg, 1993).
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36 Some ecologists have argued that Enlightenment ideals of progress and development,
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38 contingent on a political economy that privileges endless growth, have also led to the
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40 degradation of the natural environment (Merchant, 1980; Ophuls, 1997). The climate
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42 emergency facing humanity is a direct outcome of economic and political arrangements that
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44 view the natural world as a resource to be exploited only for economic gain while marginalizing
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46 alternate worldviews that regard humans as custodians of the planet (Büscher et al., 2012). In
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48 this article, we argue that a fundamental shift is needed in the way humans relate to the planet
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50 if our species wants to survive what Earth scientists call the *Anthropocene*, a new geological
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52 epoch where human activity is changing the functioning of the earth system (Crutzen, 2006;
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54 Steffen et al., 2007). These shifts involve questioning the epistemological and ontological
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56 assumptions of our dominant economic paradigm; for example, *rationalism* – the use of reason
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3 to gain knowledge; and *empiricism* – the idea that knowledge can only be generated by
4 particular methodical ways of experiencing and observing the world. We argue that the
5 universalization of a specific kind of rationality that defined human-nature relationships since
6 the Enlightenment has had disastrous ecological consequences. In this article, we focus on a
7 crucial absence in the Enlightenment rationality that also dominates organization theories – our
8 failure to recognize Earth as a living system, which we argue arises from the imposition of a
9 false and debilitating dichotomy between humans and nature.

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19 Our article attempts to address this lacuna – not as environmental problems like
20 deforestation, carbon emissions, global heating, or melting glaciers, but as the fundamental
21 nature of our relationships with the planet that sustains us and the way we theorize these
22 relations in organization and management theory. In particular, we critically analyze the
23 concept of the Anthropocene (Crutzen, 2006; Steffen et al., 2007) and the Gaia hypothesis, first
24 developed by scientists James Lovelock and Lynn Margulis (Lovelock, 1972; Lovelock &
25 Margulis, 1974). In Greek mythology, Gaia is Mother Earth; the ancestral mother of all life.
26 The Gaia hypothesis proposes that Earth should be viewed as a living organism because it is a
27 self-regulating complex system. While this might seem a radical and novel concept in Western
28 philosophy, it is essential to realize that the notion of Earth as a living being, inseparable from
29 human and nonhuman life, is central to Indigenous¹ philosophies and cosmologies that predate
30 Greek mythology by many thousands of years (Te Ahukaramu, 2005). Indigenous meanings
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¹ Given the diversity of Indigenous peoples, the United Nations has not adopted a definition of the term
'Indigenous'. Instead, a more fruitful approach would be to identify rather than define Indigenous peoples, who
practice 'unique traditions' while retaining 'social, cultural, economic and political characteristics that are
distinct from those of the dominant societies in which they live'. Indigenous is understood based on a number of
aspects including 'self-identification as Indigenous peoples at the individual level and accepted by the
community as their member; historical continuity with pre-colonial and/or pre-settler societies; strong link to
territories and surrounding natural resources; distinct social, economic or political systems; distinct language,
culture and beliefs; form non-dominant groups of society; and resolve to maintain and reproduce their ancestral
environments and systems as distinctive peoples and communities'
(https://www.un.org/esa/socdev/unpfii/documents/5session_factsheet1.pdf).

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3 and ways of relating to Earth are in direct contrast to Enlightenment influenced utilitarian
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5 assumptions about the natural world where nature is a resource to be exploited only for the
6
7 benefit of humanity (Colchester, 2004; Mistry & Berardi, 2016).
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10 This article discusses these profoundly different worldviews and knowledge systems
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12 and explores the possibilities of developing a more Earth-centric perspective in organization
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14 and management studies. Our goal is not to portray a romanticized account of Indigenous
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16 communities or question the progress resulting from the Enlightenment and its aftermath. We
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18 do not claim to speak on behalf of Indigenous communities, nor do we suggest that we borrow
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20 their knowledge. As some climate and conservation scientists have argued, engagement with
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22 Indigenous worldviews should be pursued respectfully and not by selective and instrumental
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24 use of their knowledge (Colchester, 2004; Ford et al., 2016; Mistry & Berardi, 2016). While
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26 some researchers in fields like earth science, anthropology, geography, sociology, among
27
28 others, have engaged with Indigenous worldviews, organization and management scholars, for
29
30 the most part, remain unconvinced about the importance or relevance of such alternate
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32 perspectives (Hamann et al., 2020; Pio & Waddock, 2020; Seremani & Clegg, 2016). Our
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34 objective is to examine the implications of this absence, its consequences, and the modalities
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36 through which Indigenous views could be understood without being appropriated or exoticized.
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38 When four out of nine planetary boundaries have already been exceeded² (Steffen et al., 2015),
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40 such questioning is essential for the future of our discipline and the survival of the planet and
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42 its inhabitants.
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49 We argue that responding to the climate emergency does not require more evidence or
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51 data – what is needed is urgent collective action based on a different imaginary. The current
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56 ² The planetary boundaries that have been exceeded are (1) atmospheric carbon dioxide concentration; (2)
57 increase in radiative forcing since the start of industrial revolution; (3) extinction rate; (4) anthropogenic
58 nitrogen removed from the atmosphere. The other boundaries are (5) anthropogenic phosphorus in the oceans;
59 (6) saturation state of calcium carbonate in surface seawater; (7) land surface converted to cropland; (8) global
60 human consumption of water; and (9) stratospheric ozone concentration.

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3 ecological crisis offers an opportunity to rethink relationships between humans and the Earth
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5 to make such relationships less extractive and more regenerative. The same applies to the
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7 theories we use to understand organizations and the natural environment. We believe
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9 organization and management scholars must question the assumptions on which our theories
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11 and practices are based and confront the colonial legacies that have dominated relationships
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13 between humans and nature.
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17 The article is organized as follows. We first provide a historical account of human-
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19 nature relationships by introducing and critically analyzing the concept of the Anthropocene,
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21 an era in which human beings and earth systems have become forces of the same geological
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23 magnitude. The Anthropocene has become the dominant framework for understanding
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25 relationships between humans and the Earth. We elaborate on the connections between
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27 capitalism and the ecological crisis and show how particular notions about human-nature
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29 relationships have dominated modern forms of organizing economies and societies. We argue
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31 that by excluding nature and nonhumans and conceptualizing the planet as simply a resource
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33 to be exploited rather than relating to it as a living being that demands respect and care, theories
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35 of organization have contributed to the current environmental catastrophe. We then present a
36
37 decolonial critique of the Anthropocene and argue that, like the Enlightenment, its narratives
38
39 are Eurocentric and obscure colonial histories. Next, we introduce the Gaia hypothesis and
40
41 discuss how its central assumption of Earth as a living system could help address the limitations
42
43 of the Anthropocene. We argue, however, that, like the Anthropocene, the Gaia hypothesis
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45 suffers from a similar colonial rationality that limits its ability to address the ecological crisis.
46
47 Elaborating on the limitations of both the Anthropocene and the Gaia hypothesis, we discuss
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49 alternate views of the human-nature relationship, particularly Indigenous philosophies that are
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51 not predicated on a separation of humans from nature and examine how these worldviews
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3 conflict with the dominant economic paradigm. We conclude by discussing the implications of
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5 our critique for organization studies and develop an agenda for future research.
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10 **ENTER THE ANTHROPOCENE**

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12 Earth scientists have proposed that in geological terms the planet has entered a new
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14 epoch called the Anthropocene. Humans have displaced nature to become a dominant
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16 geological force on Earth (Crutzen, 2016; Ruddiman et al., 2015; Steffen et al., 2011). A term
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18 from the natural sciences, first popularized by the atmospheric chemist Paul Crutzen, the
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20 Anthropocene rapidly gained currency across the humanities and social sciences, including
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22 sociology, human geography, anthropology, philosophy, literary studies, economics, political
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24 science, psychology, history, linguistics, legal studies, and cultural studies.
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29 The Anthropocene follows the Holocene, an epoch that began 11,700 years ago during
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31 the last glacial retreat and which was characterized by a relatively stable and warm climate,
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33 providing ideal conditions for the invention of agriculture. However, there is some
34
35 disagreement among scientists about when the Anthropocene began. The Early Anthropocene
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37 hypothesis dates the period to about 8,000 years ago, when farming and agriculture became
38
39 widespread (Ruddiman, 2003). Others claim that the year 1800, when the Industrial Revolution
40
41 was at its peak, marks the beginning of the Anthropocene (Steffen et al., 2011). Another
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43 proposed starting date, based on the growing concentrations of carbon dioxide and methane
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45 found in air trapped in polar ice, is the latter part of the 18th century, in particular 1784,
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47 coinciding with James Watt's steam engine design (Crutzen, 2016). The year 1950 is also
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49 proposed as a starting point as that was the beginning of the Great Acceleration post-World
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51 War II when fossil fuel-driven economic expansion caused dramatic changes in earth systems
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53 marking the transition from the Earth's natural geological period to a human-dominated era
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3 (Steffen et al., 2007). And the Anthropocene Working Group³ identified yet another date –
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5 1945 as the beginning of the Anthropocene as this was the year in which the consequences of
6
7 human activity permanently left its mark on the geological strata through radiation arising from
8
9 nuclear fallout, a phenomenon never witnessed in previous epochs.

12 Why this scientific quibbling over the actual starting date of the Anthropocene? And
13
14 why so much intellectual effort to manufacture consensus about the end of the 18th century as
15
16 the beginning of the Anthropocene? While the Anthropocene epoch represents a fundamental
17
18 change in human-nature relationships, dating its origin is not politically neutral. If we accept
19
20 the Early Anthropocene hypothesis, global environmental change becomes normalized,
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22 whereas attributing the beginning of the epoch to the Industrial Revolution implies some level
23
24 of historical responsibility for carbon emissions to industrialized countries (Chakrabarty, 2018;
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26 Lewis & Maslin, 2015a). Perhaps it is no coincidence that the history of the Anthropocene
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28 mirrors the history of modernity, both written from the perspective of the Enlightenment. As
29
30 Mikhael (2016) points out, the geological time scale that periodizes the Earth's geological
31
32 history was also an Enlightenment invention. The transformation from pre-modern to modern,
33
34 very much an Enlightenment narrative, is also the Anthropocene story – so much so that to the
35
36 catalogue of Enlightenment notions of progress, capitalism, democracy, freedom, human
37
38 rights, we can add species extinction, greenhouse gas emissions, climate change, pollution, soil
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40 erosion and melting ice caps (Mikhail, 2016). Some scholars have proposed terms like
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42 'Capitalocene' (Parenti & Moore, 2016), 'Ecocene' (Norgaard, 2013), 'Technocene'
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44 (Hornborg, 2015) or 'Plutocene' (Glikson, 2017) as substitutes to better reflect the political
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46 economy of the Anthropocene.
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58 ³ The Anthropocene Working Group (AWG) is an interdisciplinary research group dedicated to the study of the
59 Anthropocene as a geological time unit. It was established in 2009 as part of the Subcommission on Quaternary
60 Stratigraphy (SQS), a constituent body of the International Commission on Stratigraphy (ICS).

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3 One of the many challenges in understanding the Anthropocene is to reconcile two
4 immensely different scales of time (Bansal et al., 2018) – the time of Earth history, which
5 spreads over hundreds of millions of years and the 500 years or so of the history of capitalism,
6 which requires both ‘human-centered thinking and planet-centered thinking.’ (Chakrabarty,
7 2018, p. 6) The Anthropocene can accordingly be understood as two separate but connected
8 phenomena – a ‘biophysical Anthropocene’ that reflects changes in the Earth’s physical
9 properties and a ‘socio-economic Anthropocene’ (Angus, 2016) that is the outcome of centuries
10 of a capitalist political economy⁴. Thus, it is essential to realize that the Anthropocene emerges
11 within capitalism: if, as Marx demonstrated, alienation of labour from the means of production
12 was a hallmark of modernity, then alienation of nature from humanity marks the Anthropocene.
13 The mastery of nature, a critical Enlightenment narrative, fulfils its destiny in the
14 Anthropocene, where humans are now the most potent force that shapes nature. But *homo*
15 *economicus*, who is primarily responsible for the environmental devastation of the planet, is
16 also *homo politicus*, a political actor seeking to collectively organize in order to promote
17 particular interests. The Anthropocene is the outcome of a political process which sustains a
18 political economy that privileges wealth creation over ecological welfare (Ergene et al., 2020).
19 Like the Enlightenment, the Anthropocene is a political project and should be understood as a
20 global political phenomenon (Biermann, 2014).
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45 But what constitutes global politics in the Anthropocene? The Anthropocene narrative
46 constructs a singular universal collective humanity that elides deep inequalities in society and
47 deflects attention from understanding how such inequalities are generated and intensified
48 (Bauer & Bhan, 2018). The wealthiest 10% of the world’s population is responsible for 52%
49 of cumulative carbon emissions, while the poorest 50% contributes to just 7% of global
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59 ⁴ ‘Capitolocene’, however may be an inaccurate descriptor of an epoch according to Angus (2016, p. 232)
60 because the Anthropocene epoch will ‘continue long after capitalism is a distant memory’.

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3 emissions (Oxfam, 2020). An uncritical acceptance of humanity's 'natural' phenomenon as a
4
5 geophysical force may preclude possibilities of transforming the conditions of our existence
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7 through a more critical engagement and analysis of culture, power, and inequalities (Malm &
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9 Hornborg, 2014). The Anthropocene narrative has been unable to address the inequalities of
10
11 climate change. Perhaps in this context it would be more productive if we fundamentally
12
13 understood the social and political economy that constitutes the Anthropocene and explore
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15 possibilities of reversing its self-destructive path.
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19 A starting point would be to examine the paradox at play in the very idea of the
20
21 Anthropocene. Earth systems scientists have recognized that human activities drive changes in
22
23 earth systems. Consequently, the dichotomy between humans and nature, which is the
24
25 epistemological and ontological basis of Western science, is no longer tenable (Oldfield et al.,
26
27 2014). Yet virtually all knowledge produced in Western scientific canons about human-nature
28
29 relationships is based on a dualism between humans and nature, which raises questions about
30
31 the appropriateness of the concept of the Anthropocene in addressing the range of
32
33 environmental problems facing the planet. And despite the recognition by some earth systems
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35 scientists of the breakdown of the human-nature dichotomy, there is hardly any engagement
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37 with what this means for understanding place-based human and nonhuman relationships and
38
39 its implications for a more radical and progressive politics of the post-human such as animals
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41 and plants (Bauer & Bhan, 2018; Mikhail, 2016). Critiques of the human-nature dichotomy
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46 tend to relapse into the same dualism in describing ecological systems – Chakrabarty's (2018)
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48 distinction between human-centred thinking and planet-centred thinking is a case in point –
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50 and the reification of nature/culture and human/nature has yet to be dismantled in our scientific
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60 canons (Sayre, 2012).

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3 The Western scientific method – or the systematic observation and experimentation,
4 use of inductive and deductive reasoning, and the formation and testing of hypotheses and
5 theories – a crucial means of knowledge production for the Enlightenment project, struggles to
6 understand human-nature relations in the Anthropocene era (Hoffman & Jennings, 2018).
7 Enlightenment rationalism and empiricism also created ‘scientific racism’ consolidated by a
8 power and knowledge system used to justify colonialism and subjugate other knowledges
9 (Goldberg, 1993). In the Enlightenment, humans (and by humans, most Enlightenment thinkers
10 of the 18th and 19th centuries meant white male Europeans⁵) were the centre of history. In the
11 Enlightenment Anthropocene, humans are the centre of geological and atmospheric forces as
12 well but without an appreciation of the inequalities in the use of the atmosphere and natural
13 resources by different groups of humans or the racial basis of these inequalities.
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28 Whether in the natural sciences, social sciences, or organization studies, the dominant
29 narratives of the history of the Anthropocene reflect Eurocentric histories that make invisible
30 alternate histories, thus mirroring the same omissions of Enlightenment thinking. In
31 announcing the Anthropocene as a universal project, triumphal accounts of the mastery of
32 nature and wealth creation through resource extraction or cautionary tales of ecological
33 degradation ignore histories of colonialism that made the Industrial Revolution and other
34 markers of the Anthropocene possible. Histories of slavery, geographies of race and racism,
35 genocide, and subjugation of Indigenous knowledge, are all erased in constructing a universal
36 humanity that must now confront the problem of planetary destruction mainly created by the
37 population in countries of the global North. The Anthropocene is ironically portrayed as post-
38 racial and postcolonial in mainstream scientific accounts, even those that acknowledge
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56 ⁵ Racial hierarchies pervade Enlightenment philosophy. In his early work, Kant asserted that ‘Native Americans
57 are the lowest of the four races as they are completely inert, impassive and incapable of being educated.’ He
58 placed the ‘Negroes’ above them as ‘they are capable of being trained to be slaves but are incapable of any other
59 form of education.’ For Kant, ‘the white race possesses all motivating forces and talents in itself.’ and ‘Native
60 Americans and Negroes cannot govern themselves (they) serve only as slaves’ Kant (1775/1950; 1776/1978).

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3 resource access and consumption inequalities. But what if we mark the colonial era as an
4
5 alternate date for the beginning of the Anthropocene? What role have colonial histories played
6
7 in the creation of the Anthropocene? The Anthropocene has also emerged from the political,
8
9 economic, cultural, ecological, social, and racialized effects of colonial domination, as we
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11 argue in the next section.
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17 **DECOLONIZING THE ANTHROPOCENE**

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19 Somewhat surprisingly, the claim that colonialism brought about the Anthropocene era
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21 was made by natural scientists. Lewis and Maslin (2015b) argue that 1610 marked the
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23 beginning of the Anthropocene based on a significant dip in atmospheric CO₂ levels during that
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25 time. The implication is that colonialism and the rise of global trade after the European invasion
26
27 of the Americas resulted in human activity that changed the functioning of the earth system.
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29 The decline in CO₂ levels resulted from the genocide of more than 50 million Indigenous
30
31 people in the Americas, leading to a dramatic drop in agriculture and the consequent
32
33 regeneration of forests and grasslands. According to Lewis and Maslin (2015b, p. 174),
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35 European colonization of the Americas – the ‘collision of Old and New Worlds’ – is a marker
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37 of the Anthropocene epoch and a prelude to the Industrial Revolution. However, this assertion
38
39 has been strongly refuted by some scholars who claim that the dip in CO₂ levels can be
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41 explained by ‘natural variability’ and that attributing the beginning of the Anthropocene era
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43 and industrialization to the colonization of South America was ‘mere fancy’ because other
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45 events like enclosure legislation, technology and the ‘rise of the British merchant class’ made
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47 industrialization possible (Hamilton, 2015, p. 104). But in these rebuttals there is, of course,
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49 no acknowledgment of how the transatlantic slave trade and colonial looting contributed to the
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51 ‘rise of the British merchant class.’
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58 While there is disagreement about the periodization of the Anthropocene, there appears
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3 to be some consensus among both natural and social scientists that the concept is a ‘major shift
4 in the way that we see the world’ and that a more ‘fluid and broader use’ of the Anthropocene
5 concept is needed rather than being fixated on its origins (Maslin & Lewis, 2015, p. 111). This,
6 of course, begs the question of who the ‘we’ is in this paradigm shift: many non-European
7 societies, particularly Indigenous peoples, had understood and embraced the concept of Earth
8 as a living system where humans and nonhumans are inextricably linked thousands of years
9 ago before the ‘major shift’ of the Anthropocene era (Beckford et al., 2010; McGregor, 2004).
10 Yet this knowledge has been systematically delegitimized by the colonial project that justified
11 land appropriation as part of the civilizing mission designed to eliminate Indigenous societies
12 through assimilation, legal domination, and even genocide (Bell, 2016). If knowledge and
13 power are indeed one, and ‘populations are subjugated to the production of truth through
14 power’ (Foucault, 1980, p. 93), then Indigenous knowledge is subjugated knowledge: at best,
15 these knowledge systems remain invisible, and at worst, systematically delegitimized by
16 colonial forms of power (Mignolo & Walsh, 2018). Western ways of knowing as ‘truth’
17 delegitimized other epistemic practices, thus normalizing colonialism as a form of social
18 relations (Mbembe, 2016). Therefore, the ‘we’ of the Anthropocene makes invisible the
19 populations it subjugates while legitimizing racial inequalities in its claim to universalism
20 (Yusoff, 2018). This is precisely why the Anthropocene concept needs to be decolonized by
21 explicitly linking its emergence with the colonial project and problematizing its notions of
22 ‘human nature’ – if the Anthropocene and its associated problems have their origins in
23 colonialism then the prescribed solutions may also produce the disempowering social,
24 economic, and ecological consequences of colonialism (Davis & Todd, 2017).

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54 The debates that are being played out in scientific journals reflect yet another
55 universalizing discourse of the Anthropocene that makes invisible its Western basis. Although
56 colonialism is acknowledged, the focus quickly moves on to debates over ‘geological time,’
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3 ‘stratigraphic evidence,’ and ‘transoceanic movement of species’ erasing once again histories
4 of colonialism. The genocide among the Aztec, Mayan, and Inca societies where more than 65
5 million people were exterminated in less than 50 years (Quijano, 2007) is referred to as
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10 ‘depopulation in the Americas following European colonization’ (Anthropocene Working
11 Group, 2015, p. 119), or ‘arrival of Europeans in the Americas,’ or ‘social concerns’ that
12 highlight ‘unequal power relationships between different groups of people’ (Lewis & Maslin,
13 2015b, p. 177). As Simpson (2020) argues, the philosophical and intellectual traditions that
14 preceded the Anthropocene were rooted in colonial thought that measured human progress and
15 development through a series of stages, beginning from primitive hunter-gatherer societies to
16 advanced modernity. The Western developmental path toward modernity and progress became
17 a universal imperative to be managed by the colonial project, which in itself was very much a
18 product of the Enlightenment.

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31 The Anthropocene follows a similar temporal narrative of progressive stages beginning
32 from technological developments in Europe that spread to the rest of the world. This ‘advancing
33 humanity’ narrative created a new geological stage where the capability of human activity to
34 modify the earth system becomes increasingly pronounced (Simpson, 2020, p. 64). Once this
35 aspect of human progress is acknowledged, (Western) scientific knowledge would once again
36 come to the rescue by developing new technologies that would continue humanity’s mastery
37 of ‘nature,’ but in a more ‘sustainable’ way. This reaffirmation of universality in the
38 Anthropocene reflects an implicit alignment with the colonial era ideology of capitalism based
39 on extraction and accumulation through dispossession (Davis & Todd, 2017). Geological time
40 of the Anthropocene is not politically or racially neutral – narratives of the Colonial Man to
41 Anthropocene Man represent a privileged subjective space where ‘coloniality and anti-
42 Blackness are materially inscribed into the Anthropocene’ (Yusoff, 2018, p. 41). Alternative
43 social imaginaries are therefore needed to re-envision human-nature relationships that
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3 ‘simultaneously allows us to remain critical of what is (the present) and imaginative about what
4 might be (the future)’ (Johnsen et al., 2017, p. 2). The philosophy of Gaia that conceptualizes
5 Earth as a self-regulating living organism where everything is connected to everything else
6 may offer an enabling structure for the organization of society that can address the challenges
7 of the Anthropocene, as we discuss in the next section.
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17 **EXIT THE ANTHROPOCENE, ENTER GAIA**

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19 If the Anthropocene has captured the popular imagination in recent years, Gaia has a
20 much longer history with a significantly larger following among environmentalists. A Google
21 search with the keyword ‘Gaia’ resulted in more than 164 million hits (the keyword
22 ‘Anthropocene, in contrast, had a paltry 5.7 million hits)⁶. Gaia has become a quasi-religion
23 for many environmentalists, ‘a deity even atheists can believe in’ (Humphries, 2020). First
24 formulated in the 1970s and subsequently developed over the next few decades, the Gaia
25 hypothesis proposed that all organisms on Earth are interconnected and part of a single and
26 self-regulating complex system that sustains the conditions for life on the planet (Lovelock,
27 1972; Lovelock & Margulis, 1974). Gaia theory explained how interactions between the
28 biosphere and its life forms contributed to the stability of global surface temperature, ocean
29 salinity, and oxygen in the atmosphere to maintain a relatively stable state that was conducive
30 to a habitable planet despite external changes in the environment that could be harmful to the
31 optimal conditions for life. Stabilization was achieved through feedback loops involving all
32 living organisms.
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51 The theory was met with hostility among the scientific community, and Gaia was
52 dismissed as a new-age hippie philosophy without scientific merit. Critics argued that the
53 theory was a false teleological explanation for natural phenomena (Doolittle, 1981); that
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60 ⁶ As of June 25, 2021.

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3 regulatory feedback loops could not occur in evolutionary mechanisms through natural
4 selection⁷ (Dawkins, 1982); and that Gaia was a ‘metaphor, not a mechanism⁸’ because it did
5 not explain the actual means by which self-regulating stability was achieved (Gould, 1988).
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7 Lovelock defended his position by arguing that the Gaia theory of planetary self-regulation did
8 not involve foresight or planning by living organisms, and that it was impossible to prove
9 cause-effect relationships in complex, non-linear systems. However, Lovelock and other
10 advocates of Gaia continued to search for scientific evidence that demonstrated self-regulation
11 processes, notably through the lens of systems theory that conceptualizes the Earth as an
12 interconnected web of natural and human systems (Rodrigue & Romi, 2021).
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Despite these criticisms, Latour (2017a) claims that Lovelock’s Gaia hypothesis is as revolutionary as Galileo’s discovery of a heliocentric solar system. While Galileo demonstrated that the Earth was part of a planetary system that included other planets orbiting around a star, the Gaia hypothesis states unlike other planets in the solar system, the Earth is not a dead planet – it is ‘animated’ and, ‘to complete Galileo’s Earth, which ‘*moves*,’ it was necessary to add Lovelock’s Earth, which is ‘*moved*’ (Latour, 2017a, p. 78). What does it mean to say the Earth is ‘moved’ and alive? Research on the critical zone – Earth’s ‘living skin’ – shows that Earth is not just a giver of life but *is* living in a biological sense, sustained by complex physiological processes and the outcome of individual yet interdependent living and non-living beings on and under the ground. For instance, scientific studies of the symbiotic relationships between the soil, fungi, and plants show that trees and plants communicate through their roots and vast

⁷ Evolutionary biologists like Richard Dawkins are some of Gaia’s harshest critics. Their argument can be stated as follows: ‘Things cannot happen for the good of the group simply because they were for the good of the group. Plants do not produce carbon dioxide for the sake of the Earth. Either it was a by-product of their functions, or it must be of immediate benefit to the plants themselves. Any other interpretation is contrary to a Darwinian view of life’ (Ruse, 2013).

⁸ Mechanism, of course is itself a metaphor. As Abram (1991) argues, mechanical metaphors construct representations of living systems as machines without consideration of the agency of living beings.

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3 underground networks of mycelium, not dissimilar to the functioning of the Internet (Gorzelak
4 et al., 2015; Simard & Durall, 2004). ‘Mother trees’ use these networks by exchanging nutrients
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6 with both their ‘baby trees’ born from their seeds as well as with other neighboring plants and
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8 trees that are in distress. This does not imply a unified, agentic, and goal-driven system but
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10 simply that everything is connected to and interacts with everything else, or what Latour
11
12 (2017b) calls ‘a politics of living things.’ Humans are, of course, part of the politics of living
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14 things as another actor in the network. Still, in Latour’s formulation, where there is no
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16 difference in the ability of human or nonhuman actors to act and react, there is an ontological
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18 flattening that ignores hierarchies of power and disparities in agency.
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24 According to Latour, the Gaia discovery should force humans to go back *Down to Earth*
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26 (Latour, 2018), the place of action being ‘below and right now.’ (Latour, 2017a, p. 80)
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28 Criticisms of Lovelock’s hypothesis, Latour argues, are based on a fundamental
29
30 misunderstanding by scientists due to their assumption of a separation between nature and
31
32 culture and their inability to overcome this division (Latour, 2017b). A scientific assessment
33
34 of the merits and weaknesses of Gaia’s theory is beyond the scope of this article. However, the
35
36 trenchant dismissal of Gaia as being ‘unscientific’ reveals the hegemony of the Western
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38 approach to natural sciences⁹ as being the only form of knowledge with a ‘true ontology.’ This
39
40 dominant ontology disallows and delegitimizes opposing more relational ontologies, including
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42 Indigenous ones.
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47 The scientific discovery that Earth is alive is hardly a novel insight for Indigenous
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49 communities whose beliefs and practices have always reflected such an awareness (Beckford
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51 et al., 2010; Reed et al., 2020). This observation brings us to a glaring omission in Latour’s
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53 formulation of Gaia: the erasure of non-Western knowledge systems. This silencing is
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58 ⁹ Western science is only now gradually ‘discovering’ that the Earth is indeed alive and that Indigenous forms of
59 knowledge are empirically accurate - see research on the Earth’s critical zone (National Research Council,
60 2001)

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3 puzzling, especially given Latour's exchanges with Philippe Descola, whose body of work is
4 based on anthropological research on Indigenous communities (Descola, 2013). While the
5 collapse of the nature/human dualism marks a breakthrough for Western social science and
6 forms the basis of a critique of the scientific method, there is no acknowledgment that such a
7 dualism never existed in many Indigenous cultures, where humans were always seen as
8 belonging to a more extensive network of living and non-living beings (Beckford et al., 2010).
9 We discuss the implications of this exclusion in the next section.

20 21 22 **SUBJUGATED KNOWLEDGE: DECOLONIZING GAIA**

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24 The coloniality of power that erased Indigenous knowledge in Anthropocene discourses
25 is also evident in Eurocentric constructions of Gaia. The Gaian dissolution of the false
26 dichotomy between nature and humans may represent a revolution of Galilean proportions
27 (Latour, 2017a) just as Descola's (2013) 'discovery' of multiple ontologies from his
28 ethnographies of Amazonian tribes marks a significant ontological turn in anthropology.
29 However, Indigenous knowledge is still either not recognized, or marginalized in these
30 significant achievements of Western social science. Decolonial scholars have always been
31 suspicious of cultural anthropology's essentialized concepts like 'connection to land' and
32 'harmony with nature' because these beliefs and practices while being distinctively different,
33 are 'still represented and mobilized within colonial structures of knowledge production'
34 (Cameron et al., 2014, p. 19).

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49 Moving beyond such knowledge production, the terrain of Indigenous knowledge is
50 politically contentious. As non-Indigenous scholars, we need to carefully traverse a path
51 between respectfully honouring Indigenous traditions and cultures that are the basis of their
52 expertise and being wary of the potential for appropriation and misrepresentation. We will
53 elaborate on the complexities of conducting research *with* Indigenous communities - not *on*

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2
3 Indigenous communities - in the implications section. During the era of direct colonialism,
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5 Indigenous forms of knowledge were systematically delegitimized and denigrated by
6
7 Enlightenment ideals that portrayed such knowledge as ‘simple,’ ‘primitive,’ or ‘naïve,’ and
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9 belonging to an inferior ‘stage of human progress’ (Knudtson & Suzuki, 2006, p. 6). In sharp
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11 contrast, Western science was described as ‘open, systematic, objective, rational and
12
13 intelligent’ (Beckford et al., 2010, p. 240).
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17 The tensions between Indigenous and Western knowledge systems become apparent
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19 when modern science is used to understand traditional ecological knowledge. The
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21 anthropologist Wade Davis during his research on the ingredients of ayahuasca, a potent
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23 psychoactive brew used by Amazonian shamans in spiritual ceremonies that go back thousands
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25 of years, found that its particular hallucinogenic property arose from the combination of two
26
27 botanically unrelated plants from a flora of over 80,000 species spread over the Amazon
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29 forests. Chemical analysis of the traditional brew showed how a particular combination of
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31 enzymes and alkaloids from different plants created its psychotropic properties. The Ingano
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33 tribe recognized seven different varieties of ayahuasca, all of which were classified as the same
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35 plant species in botanical science. When asked how they could establish the taxonomy of
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37 thousands of unrelated plant species and then know which plants to combine, the shamans
38
39 responded by saying ‘the plant teaches us’ (Davis, 2014). On further questioning, the shamans
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41 explained that they took the plants in the night of a full moon, and each plant sang to them in
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43 a different key, which was the basis of their taxonomy.
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50 It would be difficult for this knowledge of musical botany to pass muster in a doctoral
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52 program in botanical sciences at Harvard or Oxford, despite its ‘originality’ (Castleden et al.,
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54 2015). The point is not whether the plants sing in a different key but that there is another sphere
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56 of knowledge with a deeper and more intimate way of knowing that is different from the
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58 knowledge produced in a laboratory. A laboratory analysis can identify the psychotropic
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3 properties of the plant, and magnetic resonance imaging can follow the dynamic pathways of
4 neurotransmitters in the brain to highlight its hallucinogenic effects. Still, the canons of science
5 can never accept that the plants ‘taught’ Indigenous people this knowledge. Or that such
6 knowledge is ‘valid’ because it was transmitted across generations through stories, dances,
7 songs, and ceremonies. At best, the botanical knowledge of Indigenous communities is
8 described as ‘ethnobotany,’ deriving from ‘local cultures’ while Western science somehow
9 escapes this ethnic categorization. A crucial step in decolonizing Gaia is understanding that
10 knowledge is a system of different but coexisting belief systems. Engaging with Indigenous
11 knowledge requires a shift in disciplinary ontologies and epistemologies (Hunt, 2014). If
12 knowledge about the Amazonian Forest is knowable only through European categories, then
13 certain hierarchies are created through this process of knowing. Colonialism was in effect
14 constituted by asymmetrical power/knowledge relations that established and sustained a
15 position of positional superiority that privileged Western scholarship (Said, 1993). This fixing
16 of difference operates from a privileged position creating dichotomies of advanced/backward,
17 developed/undeveloped, modern/primitive, where authority and knowledge always remain
18 with the advanced, the developed, and the modern.

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Decolonizing Gaia thus requires acknowledging the erasures and silences of Indigenous
knowledge. This epistemological closure is in fact an act of ontological violence that
marginalizes Indigenous worldviews and the lived realities of colonial legacies (Sundberg,
2014). Colonial relations are a lived reality for Indigenous peoples worldwide, and attempts to
fix their knowledge as ‘ethnoknowledge’ or ‘traditional,’ frozen in some colonial encounters
of the past are practices of epistemic violence that they continue to resist (Banerjee, 2003). So
while Latour’s Gaia emerges from a critique of Western modernity and calls for an embrace of
the nonmodern through the breakdown of the nature/human binary, there is hardly any
acknowledgment of Indigenous thought either during the thousands of years before colonialism

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3 where such a dichotomy never existed or in more contemporary decolonial thinking that traces
4 the links between colonialism and modernity (Mignolo & Walsh, 2018). Not only does Latour's
5 treatment of Gaia silence similar Indigenous concepts – such as *Sila*, meaning life force or
6 environment or climate as 'a common organizing force' and which has been an organizing
7 principle for Inuit peoples for thousands of years (Todd, 2016, p. 8) – it discards insights from
8 contemporary Indigenous communities whose livelihoods reflect decolonial relations with
9 nature and instead advances an agenda of re-Westernizing the discourse (Luisetti, 2017). To
10 count as 'real' knowledge, the legitimacy of Indigenous expertise must be established using
11 Western scientific modes of inquiry which delegitimizes Indigenous epistemologies and
12 devalues Indigenous practices (Mistry & Berardi, 2016). If a different social imaginary is
13 required to address the ecological crisis, then in our view non-Western epistemologies cannot
14 be assessed based on Western canons but should be evaluated based on Indigenous
15 epistemologies. Indigenization is not merely the replacement of a Western way of thinking
16 with an Indigenous way but rather the coexistence and perhaps integration of the two
17 knowledge systems in a way that allows mutual understanding and appreciation of both ways
18 of life. In the following sections, we will discuss the challenges and opportunities of bridging
19 the distinctive epistemological differences between Indigenous and Western knowledge
20 systems in organization and management theories.

21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 **IMPLICATIONS FOR ORGANIZATION AND MANAGEMENT THEORY**

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49 What are the implications of our analysis of the Anthropocene and Gaia for organization
50 theory? Can our existing theories of organization and management help address the ecological
51 crisis? The answer to the second question is more straightforward: a resounding no. As Ghoshal
52 (2005, p. 76) argued, 'the pretense of knowledge' enables bad management theories to destroy
53 good management practice. The implications of such a pretense of knowledge for planetary
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3 sustainability are dire: flawed organization and management theories make poor management
4 practices even worse. It might sound harsh to dismiss the entirety of more than 30 years of
5 organization and management research on sustainability as being inadequate to the task of
6 addressing the ecological crisis, but that is precisely what we are asserting – because as long
7 as our research remains constrained by making a business case for sustainability, the worse our
8 ecological crisis gets (Ergene et al., 2020). A managerial and functional approach to
9 sustainability, which is the fundamental basis of most research in organization and management
10 studies, merely reinforces the economic and ecological limits of the political economy of global
11 capitalism in the era of the Anthropocene. What is required is a shift in the logic of the dominant
12 political economic system and not just to improve living conditions in the current system
13 (Mignolo, 2007, p. 467). We discuss four avenues that may enable such a transformation:
14 uncovering colonial biases in our theories, embracing a relational ontology, including and
15 evaluating Indigenous knowledge according to Indigenous worldviews, and conceptualizing a
16 different purpose of the firm.
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38 **Uncovering colonial biases**

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40 The Anthropocene concept is relatively new in the field of organization and
41 management studies where scholars have explored the implications of the Anthropocene for
42 institutional theory (Hoffman & Jennings, 2018), new modes of organizing (Kalonaityte,
43 2018), climate change (Gosling & Case, 2013) and accounting (Bebbington et al., 2020). A
44 special issue of the journal *Organization* titled ‘Organizing in the Anthropocene’ edited by
45 Wright, Nyberg, Rickards, and Freund (2018) included articles on how the Anthropocene can
46 challenge ‘business as usual’ solutions to sustainability and its potential to develop alternate
47 ways of organizing society. But it is unclear how institutionalizing the Anthropocene (or Gaia
48 for that matter) addresses the ecological crisis, apart from framing environmental and societal
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3 collapse in the vocabulary of institutional theory. There is also the danger that filling
4
5 ‘institutional voids’ of the Anthropocene and Gaia can erase local social and economic
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7 arrangements that do not conform to Western liberal institutional logics and ontological
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9 assumptions and replace them with market-oriented institutions that exclude the very people
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11 from participating in decisions on which their survival is based (Bothello et al., 2019).
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15 The Anthropocene and Gaia theories will not help solve the ecological crisis unless we
16
17 uncover and address the colonial basis of knowledge production. The self-affirmation of
18
19 Indigenous sovereignty is contingent on how Indigenous knowledge is ‘included’ and
20
21 transmitted through dominant colonial structures of state and non-state institutions – including
22
23 academia. Knowledge production of the non-Western ‘Other’ is often claimed to be authentic
24
25 and original without recognizing that this knowledge is produced through the political economy
26
27 of colonialism. The ‘elsewhere’ of the West is not just about geographical distance but is also
28
29 assigned a temporality – a non-West that is ‘not yet’ modern, ‘not yet civilized, and ‘consigned
30
31 to an imaginary waiting room of history’ (Chakrabarty, 2008, p. 8). Cultural categories are
32
33 ontologically created by classifying and selecting particular elements through a supposedly
34
35 neutral method, but this ‘taxonomic innocence’ uncritically transposes subjective
36
37 understanding into objective categories and concepts that pass for empirical reality (for
38
39 example, the colonial assumptions that underlie the notion of ‘institutional voids’ where a lack
40
41 of Western institutions means an absence of local social and economic structures). However,
42
43 we caution against essentializing and exoticizing Indigenous knowledge. While an appreciation
44
45 of context is crucial, there is a danger of essentializing context (Hamann et al., 2020).
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47 Recognition that the universalization of knowledge from the global North often involves a
48
49 subjugation or undervaluation of Indigenous knowledge must be accompanied by a critical
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51 awareness of the dangers of romanticizing other forms of knowledge by simply contrasting it
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53 in opposition to scientific knowledge and rejecting any benefits of science-based knowledge
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3 on a misplaced critique of colonialism. It is one thing to say that plants teach us; it is quite
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5 another to deny treatment of HIV/AIDS to your citizens because of colonial histories, as was
6
7 the case with South Africa's former President Thabo Mbeki (Hamann et al., 2020).
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10 Decolonizing our theories through the lens of Indigenous knowledge also carries the
11
12 risk of recolonizing through an appropriation by market and state actors. Indigenous knowledge
13
14 is local and place-based. It is also profoundly empirical, borne out of thousands of years of
15
16 observation. It is ethical because knowledge is not a commodity or a right: the privilege of
17
18 receiving knowledge comes with a responsibility to preserve and share it across generations.
19
20 There is a certain ethics of collaboration required when Indigenous knowledge is used to
21
22 address the problems of the Anthropocene (Smith, 1999). Non-Indigenous scholars need to do
23
24 their homework before learning from Indigenous knowledge, including unlearning the
25
26 privilege of what Spivak (1999) calls 'sanctioned ignorance' that silences the very voices that
27
28 one seeks to hear. If Gaia involves learning Indigenous ways of relating to the land and the
29
30 nonhuman, then decolonizing requires 'multi-epistemic literacy' (Kuokkanen, 2011) to enable
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32 respectful learning and a non-hierarchical dialogue between different epistemological
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34 traditions.
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42 **Embracing Indigenous relational ontologies: From exploitative to kinship relationships** 43 44 **with the Earth** 45

46 Earth science and organization and management theories are outcomes of modernity
47
48 that reproduce the liberal humanism that has separated nature from social and cultural practices
49
50 (Kalonaityte, 2018). The transformation of nature into the 'environment' has enabled the
51
52 former to be managed and controlled by discourses of the latter. By being conceived as a
53
54 separate entity, nature has thus been made more 'real' and instrumental to produce measurable
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56 outcomes for 'development' (Banerjee, 2003; Macnaghten & Urry, 1998). The mastery of
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3 nature and the consolidation of imperial power that were the bases of the Enlightenment's
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5 scientific developments also enabled the large-scale devastation of the environment resulting
6
7 in the climate emergency we are currently facing. Human/nature relationships based on
8
9 exploitative economic benefits, a core tenet of the colonial project, are inadequate to address
10
11 humanity's ecological crisis.
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15 Several organization and management scholars have attempted to explain the
16
17 interactions between organizations and the natural world using the lens of stakeholder theory
18
19 (see Driscoll & Starik, 2004; Haigh & Griffiths, 2009; Norton, 2007; Orts & Strudler, 2002;
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21 Phillips & Reichart, 2000; Starik, 1995; Waddock, 2011). Their arguments, both positive and
22
23 normative, can be summarized as follows: (1) Nature can be a stakeholder; (2) Nature cannot
24
25 be a stakeholder; (3) Nature should be a stakeholder; (4) Nature should not be a stakeholder;
26
27 (5) Nature should be THE stakeholder. For some proponents, stakeholder theory cannot
28
29 consider the natural environment as a stakeholder because nature is not human and thus cannot
30
31 have a 'stake' in organizations. This, however, does not mean that organizations should ignore
32
33 environmental issues but rather should consider them on other moral grounds because nature
34
35 is vital for other human stakeholders (Phillips & Reichart, 2000). Those arguing for nature to
36
37 be included as a stakeholder (even as a 'primordial' stakeholder) claim that such integration
38
39 would be of value to both organizations and the natural environment because it would enable
40
41 a more 'strategic' and 'holistic' approach to stakeholder management (Driscoll & Starik, 2004;
42
43 Starik, 1995). The ontological status of nature or Earth has not received much attention in these
44
45 debates. However, Waddock (2011) makes an interesting argument that specifically invokes
46
47 nature through Gaia as a living entity who is not a stakeholder but as the 'ultimate focal entity'
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49 with everyone else – humans, nonhumans, future generations, ecosystems, organizations – as
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51 its stakeholders.
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3 In integrating nature into stakeholder theory there appears to be little critical awareness
4 of the theory's pitfalls, particularly how the hierarchical structures imposed by stakeholder
5 theory to determine stakeholder salience cannot recognize the inseparability of humans and
6 nature. Consequently, any strategy that emerges from stakeholder theory to 'manage' nature
7 will always be deeply flawed. In a firm-centric stakeholder approach that includes nature as a
8 stakeholder, managers have the authority to determine which stakeholders are important and
9 deal with them accordingly, regardless of how vulnerable or marginalized those stakeholders
10 may be (Banerjee, 2000). If Gaia is the focal entity, it logically follows that she must decide
11 which of her stakeholders should be made extinct and which ones nourished, based presumably
12 on the harm they cause to the planet. That decision does not bode well for the human species.
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16 As illustrated with the example of stakeholder theory, collapsing the nature-culture
17 dichotomy implies a relational ontology that reflects different realities and meanings of
18 progress, development, or prosperity, such as the ones offered by Indigenous worldviews. After
19 nearly 140 years of negotiation, a Māori tribe obtained a court ruling in 2017 that bestowed
20 legal rights to the Whanganui River, which meant it must be treated as a living entity. The
21 Māori always considered the river to be their ancestor and were forced to go to court to claim
22 'ownership' of the river because of the New Zealand government's plan to privatize the water
23 for power generating companies, thus transforming an 'ancestor' into private property (Van
24 Meijl, 2015, p. 219). In the language of economic development, the river would become a
25 resource which the logic of capital would 'develop' by building dams, constructing reservoirs,
26 centralizing and controlling the water to be sold to hotels and their golf courses. The relational
27 ontology of communities whose livelihoods depend on the river is profoundly different. Instead
28 of seeing the river as a resource or object, they would say, 'I am the river, and the river is me,'
29 which is a very different form of development. For the Māori the Whanganui river is not a
30 stakeholder but an inseparable part of their being. Similarly, Canadian Indigenous communities
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3 are now engaging with investment managers for them to apply the Indigenous law of ‘fiduciary
4 duty’ instead of the Western legal requirements to include obligations to the land, water, plants,
5 and living creatures, as well as community members as beneficiaries.’ (Borrows & Praud, 2020,
6 p. 3)
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12 There are profound differences, perhaps even deep incommensurability, in worldviews
13 about human-nature relationships between Indigenous and Western scientific rationalities
14 based on a nature-human dichotomy. While the Western production of knowledge about the
15 Earth has been inextricably linked to its potential for creating wealth, Indigenous societies have
16 always had profoundly intimate relationships with nature based on kinship rather than resource
17 exploitation and extraction (Beckford et al., 2010). It is perhaps no coincidence that after more
18 than 300 years of rampant exploitation of nature, Indigenous communities, who represent only
19 5% of the global population, are the stewards of 80% of the biodiversity of the planet.¹⁰ So the
20 question is, why is so much biodiversity concentrated on Indigenous lands? Biodiversity has
21 not been protected through ‘rational’ decision-making, market systems, or organizational
22 hierarchies, but instead through spiritual engagement, collective and reciprocal connections
23 with animals, trees, rivers, the living and the non-living, as well as by an ethos of custodianship
24 for unborn generations.
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42 Indigenous connections between humans and nonhumans involve the ability to relate
43 to and respect the natural world as a living being through a form of ‘relational accounting’
44 (Arjaliès, forthcoming). For instance, research shows that the ability of Indigenous
45 communities to name plants in their language is directly linked to the survival of those plants
46 (Darnell & Stephens, 2007). To ‘value’ nature is to have an intimate relationship with the
47 natural environment, not as a resource to be exploited but as a member of the family of
48 humankind. Perhaps, the plants do sing to those who want to listen, maybe the ‘mycorrhizal
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¹⁰ <https://www.unenvironment.org/zh-hans/node/477>, accessed 6 December 2020.

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3 networks' discovered by botanical science that spread nutrients through an underground system
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5 is the song that 'mother trees' sing to their 'baby trees' that are in distress, provided human
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7 beings want to embrace those forms of accountability relationships (Rodrigue & Romi, 2021).
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10 Indigenous worldviews reflect a relational ontology, according to which human and
11
12 nonhuman beings co-constitute the world (Ergene et al., 2020). This form of relational
13
14 ontology, anchored in the past but kept alive through the elders' teachings, is also about
15
16 securing a sustainable future. Earth is not perceived as inherited from our parents but instead
17
18 preserved for our children (Beckford et al., 2010). For example, decision-making processes in
19
20 some Indigenous communities require considering the impacts of decisions made in the present
21
22 on the next seven generations (Jojola, 2013). Thus, human-nature relationships remain timeless
23
24 and non-hierarchical and reflect natural ecological rhythms and cycles (Settee, 2011).
25
26 Relational ontologies that underlie Indigenous philosophies of human-nature relationships are
27
28 also sources of critique against extractive projects where nature is framed as only a resource to
29
30 be exploited (Reddekop, 2014). Indigenous relational ontologies differ significantly from
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32 relational economic sociology (Zelizer, 2012) that focuses on social relationships at the
33
34 expense of nonhumans as well as previous and future generations (Arjaliès, forthcoming). They
35
36 also differ from relational accounts described in sociomateriality or Actor-Network-Theory
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38 approaches (Latour, 2005; Leonardi, 2013). Indigenous relational ontologies are fundamentally
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40 animated and spiritual, immersed in a life force that transcends time, humans, and nonhumans.
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42 We believe such an engagement, where relations take precedence over 'things' can broaden
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44 our understanding of human-nonhuman relations that can create new possibilities of being in
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46 the world.
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56 **Including and evaluating Indigenous knowledge according to Indigenous worldviews**
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3 Over the last few decades, cultural anthropologists, geographers, architects, and
4 environmental scientists, among others, have shown increasing interest in understanding
5 Indigenous forms of knowledge – commonly described as ‘Traditional Ecological Knowledge’
6 (TEK) (Berkes et al., 2000). Much of this interest is driven by the potential for Indigenous
7 knowledge to address global problems of climate change, land management, conservation, and
8 habitat loss (Mistry & Berardi, 2016). Despite recent efforts by the scientific community to
9 accommodate Indigenous worldviews, Indigenous forms of knowledge continue to be
10 misunderstood, marginalized, or misappropriated and stolen (Cochran et al., 2008; Makondo
11 & Thomas, 2018; Mistry & Berardi, 2016). Representations of Indigenous people as ‘noble
12 savages’ living in harmony with nature or as repositories of ecological wisdom are both parts
13 of the same colonial discourse that has always benefited the colonizers (Hamann et al., 2020).
14 For example, patents and intellectual property rights on genetic resources such as seeds are
15 newer forms of colonial domination. The knowledge of Indigenous communities is
16 appropriated by pharmaceutical corporations, often without payment or compensation.
17 Indigenous knowledge about the medicinal properties of plants is deemed to be ‘traditional’
18 and in the public domain and can be appropriated by pharmaceutical corporations and used to
19 develop drugs that are protected by patents and trademarks (Banerjee, 2003). Intellectual
20 property rights regimes are ill-equipped to serve Indigenous interests because knowledge is not
21 ‘owned’ by individuals; instead, Indigenous communities see themselves as custodians of
22 collective knowledge transmitted across generations in the form of stories, dances, songs,
23 rituals, and ceremonies. Indigenous knowledge is tied to a specific place that embodies a unique
24 set of relationships. Relational values ‘are not present in things but derivative of relationships
25 and responsibilities to them.’ (Chan et al., 2016, p. 1462; Tadaki et al., 2017; cited in Berkes,
26 2017, p. 296)
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3 The assumptions of ownership and property and their associated individualism are still
4 today a fundamental pillar of many of our organization and management theories, especially
5 functionalist ones (e.g., agency theory, transaction cost theory, the business case for
6 sustainability, or resource-based view of the firm, among many others). Intellectual property
7 rights on lifeforms continue colonial policies of land and natural resource appropriation based
8 on European notions of property rights. The legal basis of ‘owning’ land as property is
9 incommensurable with Indigenous notions based on relationships and interconnections
10 between humans and nonhumans and the land. Since the Earth is alive, she cannot be owned
11 by anyone (Potts, 1992). Indigenous laws are thus based on a particular vision of the ecological
12 order that stands in direct contrast to Western legal systems. By establishing a false political
13 authority through colonial violence, concepts such as property rights enabled the appropriation
14 of land by colonial powers (Neu, 1999). Indigenous knowledge extracted from communities
15 that do not benefit from this knowledge or are even further marginalized by it is a form of
16 colonial domination. How does Western social science serve Amazonian tribes that are facing
17 ethnocide and dispossession because of neoliberal state policies that promote resource
18 extraction on their lands? Indigenous knowledge and ways of relating to the land cannot be
19 separated from Indigenous peoples’ demands for autonomy and self-determination.
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42 Embracing relational ontologies also implies that organization and management
43 scholars broaden their perspective and shift their emphasis from theories to stories. Indigenous
44 epistemologies offer possibilities to transcend the ontological limits of Western scholarship
45 through stories, art, songs, and dances that are ‘culturally nuanced ways of knowing, produced
46 within networks of relational meaning-making’ (Hunt, 2014, p. 27). Such alternative forms of
47 (ac)counting for the world are needed to sustain different forms of accountability and engage
48 with voices systematically silenced in our stylized arrangement of propositions as an
49 ‘accounting fabric’ (Arjaliès, forthcoming; Rodrigue & Romi, 2021). Storytelling and art as
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3 theory building can provide a richer picture of climate change by constructing deeper meanings
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5 of forests, rivers, rocks, mountains, fungi, plants, and animals that also constitute and are
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7 constituted by the ‘climate.’ Insights from storytelling with its ‘antenarrative’ of sensemaking
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9 that merges past narratives with living stories can help rediscover the wisdom of place and
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11 reconfigure our relations with nature in more sustainable ways (Boje, 2011). However, it is
12
13 crucial to understand that Indigenous ways of producing and sharing knowledge are not just
14
15 rhetorical but metaphysical. Indigenous knowledge derives from a particular way of being in
16
17 the world that is not distinct from experience (Te Ahukaramu, 2005). Just as decolonization is
18
19 not a metaphor (Tuck & Yang, 2012), Indigenous worldviews should not be interpreted as
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21 merely a maieutic machine or a discursive practice (Baba et al., 2020; Busco & Quattrone,
22
23 2018) but as ways of being arising from their own distinctive epistemologies and ontologies
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25 and should be embraced as such by organization and management scholars.
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35 **Conceptualizing the purpose of the firm differently**

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37 In a recent editorial for the *Academy of Management Review*, Alvarez et al. (2020)
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39 called for developing a theory of the firm for the 21st century, pointing to the many limitations
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41 of current economic theories of the firm that dominate the business disciplines. The dogma of
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43 economic theories requires firms to maximize shareholder value while ‘managing’ other
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45 stakeholders (presumably to ensure they do no harm to the firm or are harmed by the firm).
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47 According to Alvarez et al. (2020, p. 712) a complete integration of stakeholder interests
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49 requires a new managerial theory of the firm where a firm may exist because it is necessary to
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51 pursue an ‘explicit societal good under the constraint of making a profit.’ It is not clear how
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53 this managerial approach can enable firms to explicitly address societal good, especially if they
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55 are ‘constrained’ by the additional requirement of making a profit. Managerial practices of
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3 accommodating stakeholder interests are also governed by organizational and institutional
4 discourses in the political economy and thus in any emerging managerial theory of the firm,
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6 making profits, far from being a constraint, still remains the norm. The implication is that a
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8 firm with a truly social purpose cannot have any profit constraint if it is to pursue an explicit
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10 societal good – thus, in Waddock’s (2011) articulation of ‘Gaia-centric economic thinking’
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12 there is no mention of either ‘profit’ or ‘shareholders.’
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17 Developing a managerial theory of the firm that is not constrained by profits is only
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19 possible if we conceptualize the firm’s purpose differently. Emerging research on post-growth
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21 organizations and organizing in the Anthropocene has examined alternate organizations like
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23 cooperatives, urban gardens, and social enterprises that prioritize ecological sustainability and
24
25 wellbeing rather than economic growth or profitability (Banerjee et al., 2021; Wright et al.,
26
27 2018). However, it is hard to imagine how a Shell or BP Chevron can embrace ‘Gaia-centric
28
29 economic thinking’ without abandoning their fundamental profit-generating activity of
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31 extracting oil from the Earth. A decolonized Anthropocene and Gaia would also problematize
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33 the renewable energy revolution by questioning the impacts of the increased demand of
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35 minerals for renewable energy: the twelve-year-old child from the Democratic Republic of
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37 Congo who digs up cobalt for a living so we can drive our electric cars in our green growth
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39 world is more vulnerable to climate change and will probably die from it before we do. If
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41 anything, the Covid-19 crisis has demonstrated the global and local interdependencies between
42
43 the natural and human systems and the need to recognize the limits of our development model
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45 focused on growth, short-termism, and speed (Bansal et al., 2021). In short, a Gaia theory of
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47 the firm cannot be imagined in a political economy of extraction based on competition and
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49 private property rights. It may help envision another ‘imagined future’ (Beckert, 2021), but
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51 Gaian capitalism can never be another variety of capitalism if environmental justice and social
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53 justice are prioritized over profits. It is time for organizational scholars to demonstrate the care,
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3 the courage and the curiosity that is required to collectively imagine a more sustainable and
4 inclusive alternative future (Gümüşay & Reinecke, 2021; Howard-Grenville, 2021).
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6 Acknowledging the continuing impact of colonialism on our theories and practices and opening
7
8 the academic space to Indigenous worldviews are undoubtedly necessary steps towards this
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10 endeavour. We hope that this article will help more scholars to embark on this challenging yet
11
12 necessary decolonizing journey.
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19 CONCLUSION

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21 Our attempt in this article was to engage in critical and reflexive theorizing to generate
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23 new insights into understanding the ecological crisis. We want to conclude our article by
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25 addressing the aspirations of reflexive theorizing posed by Cutcher et al. (2020): ‘What is the
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27 point of the paper? What do authors want to achieve? Who is the conversation for, and to what
28
29 end?’ Our response to these crucial questions focuses on two themes: resistance and
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31 alternatives – what we have to say no to and what we have to build. We do not need more
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33 research on making a business case for sustainability. Instead, we should collectively
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35 encourage more research on creating an ecological case for business (Ergene et al., 2020) – and
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37 that includes journal editors and reviewers who have a critical role in fostering such a shift. A
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39 relational ontology of the firm is only possible if we can imagine an alternative political
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41 economy where planetary capacities, not economic growth, determine economic and social
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43 relations. These relations are based on imaginaries of distribution, regeneration, restoration,
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45 and cooperation, not accumulation, extraction, or competition (Banerjee et al., 2021). And
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47 while Indigenous worldviews may offer some insights, they must not be treated simply as a
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49 ‘research context’ to which Western theories can be applied (Hamann et al., 2020). Nor should
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51 we give such worldviews a Western veneer or subject them to a Western point of view. As
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53 such, describing the ‘progressive legitimacy dynamics’ (Baba et al., 2020) of Indigenous
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3 struggles, the ‘ecological embeddedness’ of an ‘Indigenous manager’ (Whiteman & Cooper,
4 2000), or the white masculinities inherent in ‘sensemaking on the Amazon’ (de Rond et al.,
5 2019, p. 1964), without an explicit analysis of ongoing colonial relations that underlie
6 individual subjectivities or the silences that erase Indigenous sensemaking of place are not
7 examples of decolonizing research practices.
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15 Our aim here was not just to change the conversation about the ecological crisis, but to
16 change the very terms of the conversation; to show that both the Anthropocene and Gaia are
17 narratives based on exclusions that were created by Enlightenment rationality and colonial
18 relations, in other words, to *politicize* the Anthropocene and Gaia. We also add an important
19 caveat: while ongoing decolonizing efforts to displace Eurocentric discourses are to be
20 welcomed, it is vital to be vigilant that decolonizing does not descend into a recolonizing
21 process where Indigenous knowledge is appropriated selectively or exoticized. Our analysis
22 also points to the need for reforming the rational foundation of organization and management
23 scholarship by challenging the anthropomorphic biases and the economism that dominates our
24 field (Gasparin et al., 2020). The Anthropocene and Gaia call for different forms of reasoning
25 and ways of making sense of the world to overcome the nature-culture dichotomy and reveal
26 the complex interdependencies between human and earth systems. In ecological terms the
27 Enlightenment project has primarily failed our planet. Perhaps it is indeed time to celebrate the
28 end of the Enlightenment and reveal the unsustainability of our organization and management
29 theories. The moment has arrived when we should explore possibilities where we – not only as
30 scholars and educators, but also as citizens, activists, community leaders, elders, parents,
31 mentors, allies – can collectively imagine ourselves on different terms based on the radical
32 interdependence of all living and non-living beings, to experience other place-based knowledge
33 which can allow us to imagine and embrace a pluriverse of values and realities that can create
34 more just and sustainable worlds. We believe that participating in creating such a pluriverse is
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3 ultimately more challenging and rewarding than being managers of its destruction.
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