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From Indigenous philosophy in environmental education to Indigenous planetary futures: what would it take?

Lewis Williams

Geography and Environment, University of Western Ontario Faculty of Social Science, London, ON, Canada
Email: Lewis.Williams@uwo.ca

Abstract

The past two decades have seen a proliferation of Indigenous philosophy in environmental education. Much of this anti and decolonial work has made significant advances in deconstructing western modernist subjectivities; re-embedding and re-situating Indigenous and western relational epistemologies into human-earth relationality, including critical inquiry into questions of positionality, power-knowledge and human and more-than-human agency. Less articulated, however is the potential of these practices to address large scale and interrelated global challenges associated with climate and cultural-ecological crisis which coincide with the intensification of late capitalism, colonialism, and white supremacism. Relatedly, at global levels human rights approaches to planetary wellbeing continue to predominate and prominent international agreements such as UNDRIP, SDG, IPCCC and the Global Compact for Migration remain siloed from one another. Providing a broad sketch of these themes I then propose a whakapapa or kinship-based approach to life as laying the conceptual foundation for three regenerative place-based strategies which I subsequently introduce. Each strategy treats contemporary global challenges as interconnected and positions Indigenous knowledges and lifeways as playing a crucial role in addressing these. Moving from Indigenous philosophy in environmental education to broad intersectoral action, these strategies also make the interconnections between individual, collectivist, and structural approaches to Indigenous-led intergenerational resilience as one means to support our collective action toward healing human-environmental relations.

Keywords: Indigenous knowledge; environmental philosophy; sustainability

Teachable moments

Nga mihi ki a koutou katoa
Nō nga iwi o Ngāi Te Rangi, Kotirana, Wera me Hamene ōku Tūpuna
Engari, I whānau mai au ki te whenua o Aotearoa.
Nō reira
Ko Mataatua te waka
Ko Mauao te maunga
Ko Te Awanui te awa
Ko Ngāi Te Rangi ki Tauranga Moana te iwi
Ko Lewis Williams ahau

In just the space of two short weeks two "atmospheric rivers" and a cyclone have wrought devastation to parts of my homeland. Whole communities across *Te Ika a Maui* (Aotearoa New Zealand's North Island) have been obliterated within minutes. In the third extreme weather event, Cyclone Gabrielle, entire valleys became raging torrents as rivers burst their banks and tsunamis of water cascaded down mountains wreaking death and destruction. Awash in the mix was largely "offshore owned" forestry "slash" – 1000s of felled trees or huge logs, left for reasons of economic convenience, lying on cleared hills – which the flood waters propelled through valleys and hamlets (Salmond, 2023). Houses were smashed from their moorings. Māori *whare tūpuna* (ancestral meeting houses) were swamped with mud and water and ancestral *pou* (carved pillars depicting illustrious ancestors) partially buried. With critical infrastructure and local economies destroyed, concerns about food security quickly set in (Prasad, 2023). Tensions ran high as looting began – generators, food, and fuel quickly went missing. The police and army presence intensified. Disaster always opens societal cracks wider and it is obvious from the "damage commentary" that climate crisis has heightened the vulnerability of particular communities to the fortunes of our Darwinian neo-liberalist sink or swim reality. Again, many Māori, Pacific Island, migrant workers, refugees and the already poor have taken the worst of it – lives already ravaged by global neoliberalism and White Supremacism, further torn apart. Yet people have also opened their arms and homes to the homeless, provided food, bedding, and clothing for those who have lost everything. Disaster response fundraising platforms raised unprecedented amounts overnight as people throughout this small Island nation of 5 million got behind the relief effort. The human heart is indominable. And, just like water, the human spirit will always find a way.

Here on Deshkan Ziibi territory in the city of London, Ontario, I live just 100 km, from Chemical Valley, an epicentre of North America's fossil fuel industry. Surrounding the Aamjiwnaang First Nation (AFN) on three sides, constant breaches of allowable industrial air pollutant levels – including their disastrous impacts on AFN people – go largely unchecked by the Provincial Government of Ontario (MacDonald, 2019). You will often hear it said that London has "old money." Ironically in its heyday, London was tipped to become the Capital of Upper Canada. Laying claim, the colonial "founders" stamped the name Thames River on the Deshkan Ziibi. Throughout the city the scars of colonialism, late capitalism, and cultural-ecological crisis are self-evident. The effluent discharged into Deshkan Ziibi makes her unsafe to fish from or swim in; makeshift tents, supermarket trolleys and campfires belonging to the city's homeless line parts of the river near my apartment, and the sounds of ice flows crashing their way down the river in the early spring are now a thing of past. It is too warm for that these days! *Loving, hearing, living, healing with place,* is a promising start when it comes to an overhaul of this broken system. But it is not enough.

My mind casts back to one winter afternoon last year which had been a potent learning for all concerned, including myself. It didn't even take the land – in fact on this day we were huddled in a windowless classroom in the bowels of Western University. This course that I teach (Contemporary Indigenous Issues in Canada) calls students into the midst of Canada's colonial wreckage, moving from "what is" to "decolonial action" all the while requiring them from their own culturally situated identities to make sense of what it means to live ethically with people and planet, or for the Anishinaabe students in the class *"mino-bimaadiziwin"* (to live the good life). Like most of the classes I teach, members represent a range of Indigenous, settler, racial, ethnic, gender, sexual, ability, and generational identities. This matters.

It had been a tough two weeks as we have been discussing the issue of MMIWG2S+ (Murdered and Missing Indigenous Women and Girls and 2 Spirit people) throughout Canada. We had also been learning about the ways in which this racialized and gendered violence is tied, through colonialism and late capitalism to the fossil fuel industry and by extension climate crisis (Clabots, 2019). The ongoing and unresolved colonial violence perpetrated against MMIG2S+ across Turtle Island stirs a sea of emotions – rage, grief, guilt, impotency – and I know it has done so in this class. By the third week, I can tell it is time for the class to re-anchor unprocessed sensations and feelings – to find release from the academic disembodied intellectual straight jacket through re-grounding in bodies and emotions.

At the beginning of this session, we are sitting in circle as we usually do. I ask them to stand, move the chairs to the edge of the room and then take some time to walk about, to re-find themselves in their bodies and in the space. As they move past each other I encourage them to reflect on the past two weeks, their experiences, and feelings in class. I suggest to them that through our identities and experiences we each have a unique relationship to this issue and that colonization has left none, unscathed. I then ask them to place themselves somewhere in the room in relation to the issue of MMIWG2S+, inviting those who see themselves (either because of their identity and/or experiences) at the centre / or every close to the issue to stand in the middle of the room.

Almost instantaneously, a Two-spirit Anishinaabe *kwe* (woman) places herself squarely in the middle of the room. Quite quickly the space fills around her. It is mainly the Indigenous members (particularly the women) of the class who stand closest in – but not always. Three black cisgender members of the class who have each experienced forms of racial violence, also place themselves close by, one coming out to the class as a survivor of sexual abuse. A young cisgender Métis[1] man stands nearby remembering the Indigenous kin who have gone missing and/or have been subjected to the sexual violence of colonial heteropatriarchy. Several White Queer and trans people simultaneously place themselves a little further out while, recounting their respective connections to the centre. They also have experienced what it is to be "relentlessly othered." One young woman recounting her privilege as a settler, says she has no connection and stands at the edge of the room. While I think differently, I simply stand with her in her reality of that moment. The space is raw and intimate. Truths are being spoken and the lingering sense of separateness I had sensed earlier dissipates. I remind everyone of our essential grounding as humans in kinship relations in which all life is viewed as part of creation and equally valued. Perhaps just as poignantly, as I put words to paper now, I find myself echoing post-colonial Gender scholar Scott Morgensen's words: "that to honor the earth centred traditions of creation which include the fluidity of gender and sexuality is an act of resistance to the colonizer's insistence that the totality of life conforms to him/her!" (Morgensen, 2012). Surely it is in this bodily refusal that some of our deepest decolonial agency lies.

My ancestors are of the Ngāi Te Rangi (Māori tribe of the Tauranga Moana, Aotearoa), Clan Argeantaich (Eilean Arainn, Alba/Scotland), Welsh and German peoples. I was born and raised in Aotearoa and have spent a good part of the last twenty years loving, hearing, living, and healing with the lands and waters of Turtle Island / Canada. Given my dual epistemological and cultural lineage (Indigenous and no-longer Indigenous to place), the colonial complexities of my *takatāpui* (LGBTQQ2S+) identity and that my professional life has given me ample opportunities to observe the impacts of public discourses on our relationship to the Earth, I am deeply interested in processes of "becoming of place" and the relational space, practices and theoretical traditions that might enable this. Today I live on Deshkan Ziibi territory, which in *Anishinaabemowin* (the language of the Anishinaabek Nation, one of the three nations who are Indigenous to this territory) refers to the deer antler formations carved by the river as she threads her way across this land through urban scapes, farms, and remnants of native, Carolinian forest. Born to the *whenua* (land) that is Aotearoa, here on Turtle Island, I am both settler and an Indigenous ally.

Introduction

Our human troubles stem from a deep-seated cultural pathology that is strongly linked to colonialism's intensification which centres the hierarchical ordering of life, scientific reductionism, and late capitalism (Lewis, Williams, & Jones, 2020). Addressing what is now a cultural and an ecological crisis not only requires us as individuals, learning communities and collectives to re-embed narratives and practices that move us to a deeper place of healing our disconnect from the Earth community and humanity, but also requires broader and more far-reaching strategies associated with public discourse and policy, including a radical revision of the ontologies, epistemologies and axiologies which underlie them.

My central argument is that Indigenous environmental philosophy can make a significant difference to life on this planet, if its re-emplacement as the foundational knowledge of place and society includes broad intersectoral change-making strategies which recognize the interrelated nature of contemporary global challenges. Global Health scholar Ronald Labonte summarizes these "existential threats" (existential in the sense they threaten humanities' survival) as global neoliberalism and worsening economic and social inequities; climate, and ecological crisis; and unprecedented human migration (Labonte, 2021). Each of these challenges however is intimately underscored by and connected to a fourth – the erasure of Indigenous lands, peoples, and lifeways, alongside the pervasive rupture of relationality between people and the earth (Williams, 2022). Exponentially magnified by our hyperconnected interdependent global reality of complex and mutually impacting biophysical, technical, financial, and social systems (UNDRR, 2019), the nature, intensity, scale and impacts of these tightly interwoven threats are increasingly less predictable.

Indigenous planetary futures refer to a multiverse of Indigenous futurities in which the Indigenous knowledge systems, lifeways and legal laws form the epistemological, ontological, and axiological bedrock of place/s and the human and more-than-human societies that inhabit them. Realized to their full potential they represent the restoration of "the vibrant relationships between the people, their ecosystems, and the other living beings and spirits that share their lands" (Battiste and Henderson, 2000, p. 42). These are culturally and generationally inclusive futures which centre the Indigenous realities and leadership of those still Indigenous to place, while simultaneously enabling those no-longer Indigenous to place to heal their disconnect from Mother Earth. Indigenous planetary futures appreciate and make space for the long ago colonized (Sepie, 2018) to align with and learn from the Indigenous philosophy of place while recognizing that Indigenous belonging to the land, is an intergenerational endeavour. In Māori scholar's Te Ahukaramū Royal's words to be Indigenous "is to be born from the land where you live, and continually born and reborn through an intimate relationship with earth, sea, and sky" (2007, para. 6). Methodologically, Indigenous-led intergenerational resilience (Intergenerational knowledge transmission and connectivity) is one process whereby Indigenous planetary futures may be realized.

Indigenous environmental philosophy has at one time lain at the basis of all societies (O'Hara, 2006). Embodied in our DNA, these capacities for deep listening to our "more-than-human relatives" reflect deep epistemological truths which remain at the heart of today's life-giving cultures, particularly those which extend across human and more-than-human societies. Collectively, humanity has a rich repository of cultural narratives to help us remember and guide us in the re-matriation of Indigenous lifeways and living systems of knowledge back to the earth. According to Aotearoa decolonial scholar Amba Sepie, in contrast to settler colonialism which has naturalized white supremacy and heteropatriarchy, to re-matriate is to restore the emplaced feminine:

> This includes the living maternal body of the Earth, and all Indigenous and traditional earth keepers who have been "feminised" [ascribed characteristics which associate women or the feminine principle with weakness and subservience] and thus disenfranchised by binarized reference to (and comparison with) a masculinist or "rational" western assertion of dominance (Sepie, 2018, p. 16).

In the face of our contemporary challenges, the central question addressed here and in my recently released book "Indigenous intergenerational resilience: Confronting cultural and ecological crisis" (Williams, 2022) is: *"What forms could Indigenous-led intergenerational resilience take in 21st century neo-colonial contexts of cultural-ecological crisis?"* In response to this question and as I argue the necessity of, in these urgent times, getting Indigenous Environmental Philosophy out of the classroom (I use this term loosely) and into policy and practice, this article proposes a *whakapapa* (the genealogy between entities) or kinship worldview (Salmón, 2000) as providing

the philosophical foundations for three broad intersectoral strategies: Revisioning the paradigmatic framework that underlies policy and practice in the neo-liberal nation state; Indigenous public health systems; and Radical Hospitality – Indigenous-led migration. While the material I draw on is from my life experiences in Aotearoa and Turtle Island, given my Māori whakapapa, it is this lineage I primarily draw on in my epistemological descriptions.

Philosophical foundations: A Whakapapa/Kinship approach to life

> I do believe that the gods uh, [are] battling each other for supremacy ... And the battling between *Tāwhirimātea* [God of weather] and, and the god of the sea, *Kiwa.* And that produces clouds ... the action of the sea produces clouds that produces rain ... we [humans] are really providing the balance ... I've always looked at it as a kind of a, a triangle ... The gods (*ngā atua*) at the top of the triangle or pyramid if you like, people (*ngā tāngata*) at one corner, and Papatūānuku (The Earth Mother) at the other. (Dr Hauata Palmer, Ngāi Te Rangi *koroua*/Elder in Williams, 2022, p. 92).

Ancient whakapapa or kinship-based approaches to life offer a critical counter narrative to the Cartesian, individualist philosophy of western global neoliberalism. In the above quote uncle Hauata, speaks to the *whakapapa* (the genealogy between entities) which lies at the heart of a Māori worldview. His description of our *atua* (elemental entities or original ancestors) speaks both to the science of climate as well as humanity's responsibilities to mediate between them and the needs of *Papatūānuku*, (the Earth Mother). Whakapapa, together with Māori descent from the land, therefore, forms the fundamental ontological principles of how to live well. As *tāngata whenua*, (people of the land) we trace our descent from *Ranginui* (the Skyfather) and Papatūānuku through one of their children, *Tāne Mahuta,* god of the forests, who with other atua (gods) such as Tangaroa (god of the oceans) and *Tāwhiremātea* (god of winds) are among their eldest offspring. In a Māori world, not only are the cosmos and the entities who comprise it connected through whakapapa, but also through the energetic mind which underpins material reality (Walker, 2004). In this tripartite epistemology, *wairua* or spirit/consciousness is the underpinning reality which, together with *mauri* (life force) permeates and interconnects the material world. This holistic way of relating to the world forms the basis of daily activities (Photo 1).

Photo 1. Sone carving of Mataatua ancestor Taneatua, showing whakapapa (genealogical) records within facial carvings as is traditional Māori custom.

Likewise, the relationship of the original peoples of the Great Lakes of Turtle Island to the rest of the living world is shaped by the story of Skywoman who created a garden for all. As Potawatomi scholar Robin Wall Kimmerer describes, moved by the extraordinary gifts of the other animals, including the handful of mud retrieved from the depths by muskrat (the smallest of the creatures) who had given his life to help her, Skywoman danced the world into being on Turtle's back. The land grew and grew not from Skywoman's efforts alone but "from the alchemy of the animal's gifts coupled with Skywoman's deep gratitude" (Kimmerer, 2013, p.4). Similarly, the Thanksgiving Address of the Haudenosaunee People of this region is as much an unfolding cosmology as it is an introduction to Native Science. Each element of the ecosystem – the earth, the water beings, the fish people, the plant nations, the thunder beings, grandmother moon and so forth – are greeted in turn and thanked for fulfilling their responsibilities (Kimmerer, 2013). At the conclusion of each verse of this scientific inventory the words "now our hearts and minds are one" serve as an invocation of our deeply interconnected reality.

A whakapapa-based approach to life honours the genealogy of all creation. This kincentric worldview demands that we dig deep into the cleavages of inequity, enabling the generative creativity of subjectivities and identities (including the muskrats of this world) whose voices and actions are disregarded because of their apparent lack of power. A kinship approach also recognizes colonialism's insistence on binarism and attack on the Indigenous feminine. It calls out the generations of (hierarchical) colonial "law and policies that have created the conditions for an epidemic of murdered Indigenous women, girls and Two-Spirit People and the dispossession of Indigenous Peoples [and the other beings of these lands] to build oil and gas pipelines" (Gallant, 2021, para 28). A whakapapa-based approach recognizes the inherent value in all of life and that all beings are ultimately children of Papatūànuku (Mother Earth). The allegiance of this cosmological prescription for life is to the Earth, not the state! Whakapapa or Kinship deeply resists capitalist accumulation.

Ultimately addressing climate and cultural-ecological crisis means reweaving the broken genealogy between the health of our lands and kin, cultures, and languages. It means joining the dots between the economics of extractavism, human and species hierarchies, and White Supremacism. And just like my learning moment in the classroom, Kinship involves being with the rawness of collective dismemberment and grief while unlocking the thick silences that obscure the identity politics alive in the moment. Whakapapa in action calls us to actively remake kinship relations, simultaneously enabling truth-speaking to power while nurturing the fragility of emerging alliances across differences. It breaks through the modernist illusion of separation from one another which aid and abet the structures of ongoing colonialism.

A kinship-based approach to climate action, for example, unravels dominant Euro-western approaches to Loss and Damage discourse and assessments which use reductive economic and hazard-centric framings of climate change impacts (McNamara & Jackson, 2019). Rather the kincentric emphasis of decolonial climate adaptation and mitigation situates western centric economic assessments within the much broader ecological, cultural, and spiritual web of relationships and experiences of place. Kinship knows that resilience starts with the land and the languages, stories, ways of being and relations birthed from it. In the words of Haudenosaunee youth climate activist Serena Mendizabal, *"just smacking down a wind turbine isn't gonna make a difference."* Kinship-based approaches to Renewable Energy require:

> Corporations and state governance approaches (including band councils who are a product of colonialism) [to get out of the way]. Kinship means being centred in community and relations with humans and more than human kin – the lands, the waters, the animals and knowing that these approaches need to be led by community, local and sovereign . . . . . . without institutional influence, without government power . . . without settling for what we've been told within (Serena Mendizabal, in Williams, 2022a).

A kinship approach to climate action situates the technologies of Renewables – the wind turbines, the geothermal and hydro technologies – within the sovereignty and governance of place, the more-than-human Elders who belong to her and finally the human guardians of those lands. It is sharply critical of the greenwashing technologies of capitalist accumulation and watchful for the infiltration of capitalist accumulation into previous leftist movements.[2] Held within a whakapapa or kinship-based approach, Indigenous environmental philosophy like the persistence of wild foliage that reclaims the tamed settler urbanscape, *can,* crack the concrete underneath our feet wide open transforming the paradigmatic framework on which neo-liberal modernity is predicated.

Strategy one: Revisioning the paradigmatic framework

Realizing the transformative potential of Indigenous environmental philosophy for informing broad reaching intersectoral strategies to restore the vibrant relationships of our earth community – seen and unseen – requires a radical revisioning of the ways we think about paradigms or worldviews. In contrast to western power-knowledge relations which privilege western paradigms, in recent years Indigenous scholars have insisted that Indigenous ways of knowing (science) are equal and complementary to Western (environmental) science – see for examples, *"Waka-Taurua"* (Maxwell et al, 2019) and Two Eyed Seeing (Reid et al., 2020) in Aotearoa and Turtle Island, respectively. Paralleling these developments, to protect Indigenous worldviews and scholarly endeavour from cultural appropriation, Indigenous academics and activists have for the most part made it clear that Indigenous cosmologies, knowledge systems and research methods are the domain of Indigenous peoples (Smith, 2021). This has been a necessary strategy.

I digress from these perspectives in two ways. Firstly, I do not regard Indigenous and western ways of knowing as equal partners. Rather, I position Indigenous paradigms of deep interconnectedness as the ontological, epistemological, and axiological container within which other ways of knowing sit. There is abundant evidence (including the science of western relational ontologies) (Lange, 2019, 2012) that we live in interconnected shamanic reality. Within this relational ontology, other paradigms which are more limited in their conceptualization of reality – for example positivism and constructivism's respective emphasis on the materialist and discursive elements of reality – can be situated and utilized according to specific needs. Secondly, I momentarily de-couple Indigenous identities from Indigenous paradigms to align with Cree scholar Shawn Wilson's (2013) Indigenist approach to a way of thinking and creating meaningful change. Methodologically, an Indigenist approach to knowing describes a:

> "shared philosophy and resultant ontology or way of being in the world without claiming ownership or exclusivity . . . . . . [whereas] Indigenous describes peoples' ethnicities and claims to distinct identities . . . Indigenist [however] is also a descriptive label for a way of thinking . . . you are doing indigenist research if you share its beliefs and philosophical underpinnings and put them into action in the knowledge-building process" (Wilson, 2013, pp. 312–313).

As with Indigenous-led intergenerational resilience practice, deeply understanding the nature of this belief system, however, requires one to have lived it; necessarily centring in this paradigmatic approach the sovereignty and leadership of those still Indigenous to place (Table 1).

The table "Situating Indigenous-led Intergenerational Resilience Practice" provides a sense of how a radical revisioning of paradigmatic ordering might work in practice through situating positivist, transformative/critical postmodern, participatory, and Indigenous approaches to human-ecological wellbeing in relation to one another.[3] Rather than operating on the default mechanisms of positivist or even post-positivist paradigms within public policy and programming, the situating intergenerational resilience practice table radically departs from these normative framings and practices. It achieves this through situating (empirically proven)

Table 1. Situating Indigenous-led intergenerational resilience practice (adapted from Williams, 2022, pp. 86–87)

	Positivism	Transformatist/Critical Postmodern	Participatory	Indigenous
Ontology	Absolute reality, universal truths.	Reality constructed. Power-knowledge, and power-material interests. Some historical realism – virtual reality shaped by social, political, cultural, economic, ethnic, and gender values.	Subjective-objective reality, cocreated by mind and given cosmos.	Physical reality is inter-penetrated by metaphysical (spiritual) reality. All life has an essence that is in perpetual movement. Multiple experiences of realities shaped by multiple connections humans have with the environment, cosmos, living and non-living entities.
Epistemology	An objective, measurable, and materialist reality which consists of only that which is able to be physically observed.	How we see and know the world is an outcome of the above – formal knowledge is the result of vested interests	Critical subjectivity in participatory transaction with cosmos; extended epistemology of experiential, propositional and practical knowing, and cocreated findings.	Place-based epistemologies developed over many years in continuous relationship with land, waters, spirits and ancestors of a place.
Pedagogical approach	Rational, neo-liberalist frameworks	Critical theory, intersectionality and. conscientization.	Place-based, participatory pedagogies	Land-based Indigenous education
Political ecology, cultural alignment	Western, neo-liberalist, state-corporate forums of development; humancentric; and, citizenship linked with economic productivity.	Identity politics – for example, ethnic minority, women, and GLBTQ2S+ communities.	Deep ecologists, environmental ethicists, Eastern philosophers and varying degrees of state alignment.	Indigenous communities, separatist and state-based forms of political alignment.
View of human agency/being	Rational, unified actor, self-responsibility and utilitarianism. Anthropocentric, agency and consciousness limited to humans; human life valued over other life.	Transformation of sociopolitical structures critical to agency. Multilevelled process. Begins to break down agency–structure dialectic. Social structures – external and within – constitute people and are constituted by people. Anthropocentric.	Reciprocal agency within life-world system of human and other-than human life. Agency is subtle (energy, consciousness) and gross (social structures, material).	Reciprocal agency within the life-world system of human and other-than human life. Human agency results from place-based thought and is related to human and other-than human agreements. Co-intelligence.
Life/agency Imperative	Humancentric, materialist growth paradigm. Emphasis on technological solutions to sustainability issues that do not disturb late capitalism as the governing system.	Humancentric, focus on transforming society to enable a more equitable distribution of power amongst marginalized communities relative to culturally and economically dominant groups.	Wellbeing, human flourishing and the flourishing of all life forms.	Self-determination, Indigenous resurgence and the reconstruction of knowledge promoting political transformation. Decolonization and guardianship of traditional territories and the Earth community.

Indigenous and secondarily western relational onto-epistemologies as the paradigmatic container within which more traditionally measurable paradigms can be situated and applied as alternative means of understanding various dimensions of reality.

All four paradigms have relevance for Indigenous Planetary Futurities. Indigenous and participatory worldviews are vital as they recursively embed human being and consciousness within the larger ecology or Life-World.[4] Critical postmodernism, on the other hand, remains vital to illuminating the interplay of power–culture dynamics which influence whose cultural systems are inevitably transmitted throughout public policy and programming in a variety of geo-political contexts, cultures, and ecosystems. Positivism is valuable for its contribution to the sciences and technologies of communication, environment, and public health. The Indigenous paradigm/s in the right-hand column are conceptualized as transcending and including the other paradigms.

While the power-knowledge relations that surround the entwinement of global neoliberalism and positivism within state structures of capitalist accumulation remain problematic, this radical reorientation of these key paradigms is a critical strategy for embedding Indigenous environmental philosophy into broad change-making intersectoral strategies. The education and policy sectors are important areas of action for achieving this paradigmatic reorientation. Most contemporary examples of indigenization within the tertiary sector – for examples, efforts to indigenize pedagogy and curricula in Canada; recognition of *Te tiriti o Waitangi*[5] and *mātauranga Māori* (Maori Knowledge) within Aotearoa's education curricula; or Reconciliation Action Plans within tertiary institutions throughout Australia – fail to discuss in any detail their epistemological underpinnings. Yet, such efforts (and relatedly the flourishing of Indigenous environmental philosophy throughout our education and decision-making institutions) foregrounds the need for deep engagement with the metaphysics of *te taiao* (the cosmos we inhabit). This includes more sophisticated appreciation of the ways in which these respective epistemological understandings shape our construction and experience of reality. Extending this to other sectors, this requires creating opportunities for precise, nuanced, and critical conversations about Indigenous knowledges and paradigms and their relationship to other epistemological framings, amongst educators, policy makers and change makers.

Strategy two: Indigenous public health systems

> I want my children to come home to something. I want them to hear Māori . . . . . . to have that sense of belonging . . . ..not only through the mouth, but through the blood, your mind, body, soul everything (Te reo Māori educator, Williams, 2012).

Indigenous languages and systems of healing, because of their deeply relational philosophies have the potential to be key strategies for Indigenous futurity, provided they are practiced from this epistemological understanding rather than western-orientated transactional framings. People not only embed in languages their history, traditional knowledge and unique modes of thinking and expression, but crucially they also construct their futures through them (UNESCO, 2018). Because of their relational rather than Cartesian epistemologies, Indigenous languages can be collective medicine for society at large. Here, I speak largely from a *rongoā Māori* (Māori medicine) perspective as this is my Indigenous lineage and direct experience.

Rongoā Māori is Aotearoa's first and foundational public health system. It encompasses values, customs and practices that are of these lands for more than 1,000 years (Jones, 2020). Like other Indigenous systems of healing, it consists of a variety of modalities (for example, *mirimiri*/massage, *rongoā rākau*/plant medicines, and *matakite* (seer, gift of second sight) *karakia, wairua*/prayer/spirituality), However, it is ultimately an Indigenous environmental philosophy and set of practices which engender a reciprocal relationship of care with *te taiao*, the environment, including the cosmos (Williams, 2022).

Like other Indigenous systems of healing (including the Anishinaabe Medewin Lodge of the Great Lakes area), Rongoā Māori's essence lies in its ancient shamanic worldview, which ensures the appropriate flow of nourishment not just from the landscape to its human inhabitants, but from the human community back to the Earth. At heart, it is about upholding the *mauri* (life force energy) of the people and the land (Williams, 2022). As with other Indigenous environmental philosophies, rongoā Māori is descended from Māori cosmological understandings of how the world is and came to be. In Aotearoa, rongoā Māori, has, as an Indigenous environmental philosophy, the potential to shape broad intersectoral strategies engaging the health, economic and environmental sectors in public policy orientated towards Indigenous planetary futures. *Rongoā rākau* (Indigenous plant medicine) is intimately interwoven with mitigating global warming, and sustainable ecological and economic futures. For example, through replanting natives, rather than fast-growing exotic species – global corporations will often plant fast-growing pines to maximize profits and offset costs through carbon credits – carbon is sequestered more efficiently, soil erosion and nutrition are addressed, and a natural pharmacy of medicinal plants is nurtured. In this way the possibilities for *kaitiakitanga* (human guardianship), reciprocity and deep listening to Papatūānuku's needs are kept alive. Today in Aotearoa, alongside many *tāngata whenua* (People of the land/Māori) re-claiming the ancient art of rongoā Māori, are *Pākehā* (settler, long ago colonized, originally from Western Europe) also engaging in this deep philosophical relational practice of interconnectedness. The embodiment of these Māori environmental ethics through rongoā Māori practice is one means through which settlers can learn to "stand upright as Pākehā" and assert some decolonial agency rather than being caught up in settler guilt.[6]

On a larger scale in Te Ao Māori, the Māori world, through the relational practice of *whakawhanaugatanga* (actively engaging in kinship relations), all entities are rongoā. To speak one's mother tongue is for Māori and other Indigenous peoples, simultaneously a reciprocal soothing of *wairua, hinengaro,* and *tinana* (spirit, mind, and body), and place. In Māori cosmology, language has a lifeforce of its own. Hence the *whakatauākī* (proverb) "*ko te reo te mauri o te mana Māori* – Language is the lifeforce of Māori." In this worldview any one entity is immediately and actively constituted by all things – thinking and therefore language arises from the communion of entities in place and with each other (Mika, 2016). In contrast to colonizing worldviews which position language as the representation of discrete objects or entities that are somehow separate from the *whakapapa* (genealogy) of the world, Māori philosophy views language as bringing the world into presence. In this way speaking one's mother tongue to the land animates, heals, and brings vibrancy to the "relationships between the people, their ecosystems, and the other living beings and spirits that share their lands" (Battiste and Henderson, 2000, p. 42).

However, for those who have lost their indigenous connection to place, Indigenous languages because of their construction and metaphorical nature incline the mind-body to a deeply interconnected relationship with the earth community. In this way they have the potential to radically reorientate subjectivities, or the ontological and epistemological understandings that inform our relationship to our Life-World. The following two examples are instructive. In te reo Māori, one word for waterfall is *wairere. Wai* refers to water, while *rere* refers to a range of movements which include to "fly, flow, flee, leap, go into action (any gliding movement), rush, run, race, [and] descend" (Williams, 2019, p.178) As an animate being, the wai does not just fall but flows, leaps, flies, and so on. Similarly, on the west coast of Turtle Island, language educator April Charlo of the Bitterroot Salish People of Western Montana discusses how the interrelationship between language and experiences shapes our concepts of the world around us. Prior to colonization, interactions with the natural world were not framed through the concept of ownership but rather "relationship." For example, in the dialect of her people the word Sew1kw means water. However, on its own *Sew* means to ask whilst *kw* means liquid (Williams, 2019, pp. 178–179).

Both Indigenous public health systems and languages as an aspect of these wellbeing practices are grounded in the genealogical connections to the land. In this way they act as medium for mediating and connecting the reciprocal relationship between our embodied experiences of place and the ways in which we construct and articulate our relationship to place. While the people directly descended from this whakapapa need to central to its scaling up and translation into policy and practice, Indigenous environmental philosophy through being directly linked to language, land and an Indigenous public health system of place has the potential to radically reconstruct our future.

Through intersectoral action, Indigenous public health systems have the potential to simultaneously address interrelated global challenges such as increasing inequities, climate and cultural-ecological crisis and the erasure of Indigenous knowledges and lifeways. This requires the Health, Education, Economic and Environmental sectors to move towards a holistic model of seeing and governance. At the centre of this intersectoral focus is prioritizing a reciprocal relationship of care between people and te taiao as the basis for public policy rather than narrower and disconnected goals of band aiding illness, economic growth through accelerated consumption, or producing "worker-ready" graduates.

Strategy Three: Radical Hospitality – Indigenous Led Migration

What does it mean to be [living] on a land that I do not know the history of? That I do not have a direct connection with through birth? To me it means really understanding how to live on this land through the knowledge of the people who are here, who were the original [Indigenous] peoples (Sabrina de Oliveira, First generation Canadian Immigrant from Brazil, in Williams, 2022, p. 186).

Globally, over 100,000 million people have been forced to leave their homes with more than 80% of refugee and internally displaced people fleeing from dangerous conflict situations exacerbated by climatically induced events such as droughts, monsoon rains and floods (United Nations, 2022) Compounding these extraordinary, high levels of human cultural and ecological dislocation are global neo-liberalist policies resulting in the commodification of immigrants and precarious forms of citizenship (Bhuyan et al, 2017). Often necessarily focused on more immediate concerns Indigenous voices are globally, virtually absent on immigration throughout colonized nation states. This is similarly the case in Canada. Designated as wards of the state under the Indian Act (1876) and cast as "refugees" through a slew of racist public policies in their own country, Indigenous Peoples in Canada have remained marginal to the nation's governance, including immigration policy (Bauder, 2011). In this way, like other colonial nation states, including Aotearoa / New Zealand, conventional economic success for Turtle Island / Canada has relied on actively denying the territorial belonging, depth of ecological connection and knowledge held by its First Peoples. Such developments have often led to anti-immigrant sentiment on the part of Indigenous peoples; inadvertently bolstering existing white supremacist systems and structures[7].

Our collective cultural-ecological security is strongly contingent on the extent to which we can build epistemological and relational solidarities across culturally diverse communities. While individualist western neo-liberalist ideology has permeated virtually every corner of the globe, recent immigrant peoples from countries at the cultural and economic peripheries to different extents have collective memory of Indigenous or traditional knowledges systems. Dealing with issues of physical displacement, cultural dislocation and varying degrees of intergenerational trauma while trying to make their way within western neo-liberalist societies, premised on conventional economic models of citizenship, these knowledge systems tend to remain nascent with newcomers remaining in a state of disconnect from their new homelands (Williams & Hall, 2014; Williams, 2022).
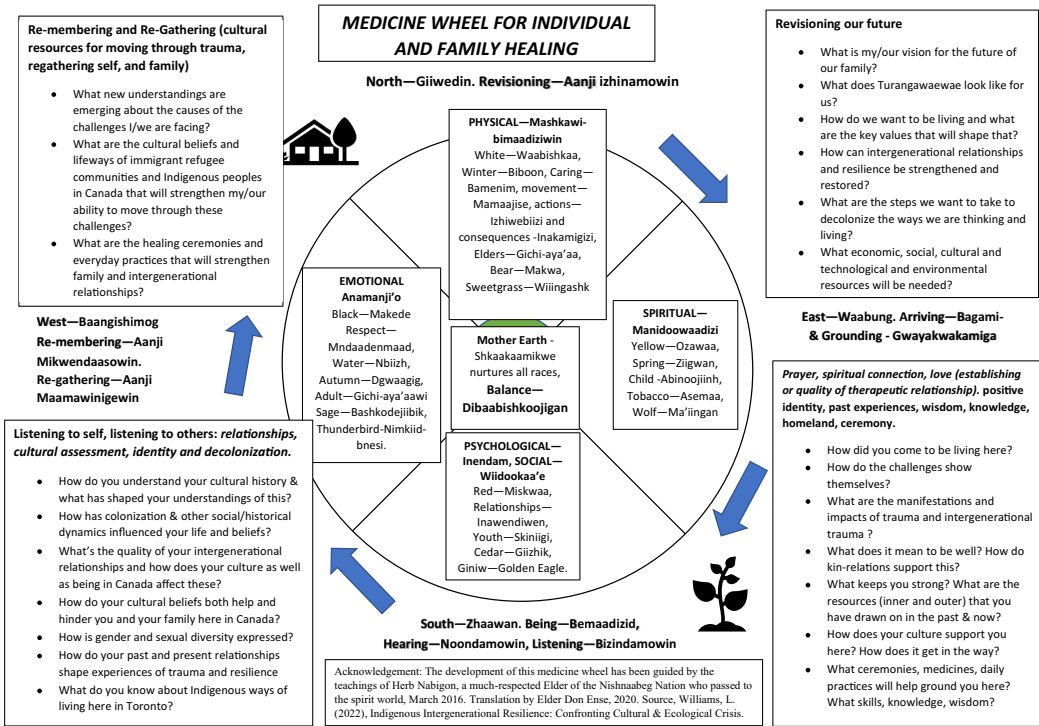
Figure 1. Medicine wheel for individual and family healing.
Source: Williams (2022).

A potentially powerful approach to countering newcomer dysphoria and simultaneously strengthening collective cultural-ecological security is the larger scale strategy of infusing Indigenous environmental philosophy within whakapapa or kinship-based approaches to migration (Indigenous radical hospitality); potentially enabling the constructive expression of Indigenous and traditional cosmologies held by newcomers. Possibilities for building *tūrangawaewae* (places of standing) with immigrant and refugee peoples are many. One approach taken is the Intergenerational and Intercultural resilience framework approach developed in Tkaronto / Toronto (Williams, 2022). This works with newcomers to deepen relationality to place through embodied and storied ways which draw on their own cultural narratives to understand the Indigenous knowledge of place, while developing relational solidarities with Indigenous Peoples.

The Cree Medicine Wheel[8] for Individual and Family Healing developed in Tkaronto for immigrant and refugee women and their families, is not just a concept but rather, a living body of knowledge that has been handed down from the ancestors. Moving clockwise through the four directions (each pertaining to stages of life, settlement and realms of being), the wheel starts with the Eastern Door (Spiritual) of *Bagami* (arriving) and *Gwayakwakamiga* (grounding), progresses to the South (psychological/social) of *Bemaadizid* (being), *Noondamowin* (hearing) and *Bizindamowin* (listening), to the West (Emotional) *Aanji Mikwendaasowin* (remembering) and *Aanji Maamawinigewin* (re-gathering), and to the North (Physical) *Aanji izhinamowin* (revisioning). Each direction has specific questions suited to the themes of each quadrant which are intended as a decolonial approach to working with issues of cultural dislocation, strengthening intergenerational resilience, and developing an Indigenous connection to place. In keeping with the flow and changing circumstances of peoples' lives the medicine wheel is intended to be fluidly used, grounded in place, and guided by the needs of the individual or family (Williams, 2022) (Figure 1).

To build epistemological and relational solidarity with local Indigenous communities an "Organizational and Community Healing Medicine Wheel" has also been developed with questions focused on enabling these goals. On a larger scale used together, both medicine wheels represent one approach to local implementation of United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) as they afford newcomers the possibility of learning Indigenous place-based environmental philosophies and ways of being while ensuring Indigenous governance remains the underpinning consideration. As settler scholar Hannah Askew (2018) notes, while UNDRIP must enable the continued revitalization of Indigenous Law, simultaneously it must facilitate the respect and engagement with Indigenous legal laws on the part of settler governments and people.

Indigenous environmental philosophy lies at the heart of Indigenous-led migration as a key strategy for addressing contemporary global challenges. Again, successful implementation of this strategy requires intersectoral action through the integration, for examples, of health, immigration, and environmental public policy. In the first instance, this requires educators, policy makers and change makers to employ an analysis of the ways in which state structures of capitalist accumulation shape immigration policy and the connection between this and the territorial dispossession of their Indigenous peoples. It then requires public policies which recognize the relationship between health and connection to place (beyond the anthropocentric philosophy of therapeutic landscapes), while reciprocally recognizing the intimate relationship between the wellbeing of the land and people. Resourcing Indigenous peoples to play a key role in settlement processes facilitates the transmission of Indigenous axiologies (values) and environmental philosophy to newcomers, grounding experiences of home-making in reciprocity with place, rather than the disconnect condition of consumer culture. Rather than solely relying on western biomedical or social models of drug therapy or counselling, Radical Hospitality facilitates Indigenous sovereignty and place-based relationality, that engenders a deeper sense of belonging and Indigenous knowledge of place for immigrant and refugee people.

Conclusion

In a recent interview, when asked whether or not all settler people need to deeply understand the Indigenous laws of place, Anishinaabe Legal Scholar John Borrows (2022) recollected his childhood experiences of watching his mother bake bread and carefully infusing the yeast into the mixture. He likened the potency of the yeast in making the bread rise to creating widespread decolonial social change. While everyone need not have extensive knowledge of Indigenous legal law, (nor is that in many cases appropriate), what is critical, is that key social change makers and power brokers do have such an appreciation.

On a broader scale the analogy of the yeast also has relevance to the three regenerative place-based strategies as key means of tackling cultural-ecological crisis and the interconnected global challenges outlined in the beginning of this article. Significantly these strategies, each grounded in Indigenous environmental philosophy, also potentially make the links at local levels between prominent international agreements. For example, the fourth strategy Radical Hospitality, presents a coordinated effort in terms of the implementation of UNDRIP, the global compact for Migration and the Sustainable Development Goals. Paralleling this and because these global challenges are the cumulative result of ongoing colonialism and associated structures of white supremacism and neoliberalism, it is critical that the infusion of Indigenous environmental philosophy into policy and governance occurs in a way that addresses the connections between issues such as racism, gender-based violence, poverty, homophobia, and cultural-ecological crisis.

The climate and cultural-ecological crisis are fundamentally about the unravelling of whakapapa or the loss of Indigenous kincentric ways of being and aligned spiritual epistemologies of interconnectedness. Pivotal to the three regenerative place-based strategies articulated here is the protection of Indigenous and tribal cosmologies and knowledge systems including preventing

their appropriation for commercial gain. Our greatest hope lies in "living the truth" of our inter-dependence with our earth family. This requires cultivating a deep regard for all beings, beyond shallow utilitarian commercial and social transactions. Love in its broadest, deepest sense is "the way." Love flourishes when trust and lived ethics of kincentricity are fully present. While the intergenerational road ahead for humanity is entangled and rocky, if brought to scale, Indigenous environmental philosophy, can greatly assist us collectively moving through our planetary predicament towards regenerative Indigenous futurities.

Notes

1 Métis are people of mixed European and Indigenous ancestry and one of three recognized Indigenous groups in Canada under section 35 of the Canadian Constitution. They have a distinct social and cultural history.

2 For example, the term "Rainbow capitalism" describes the infiltration of neoliberalism into the previous leftist rooted movement of Queer activism.

3 This table is simplistic in that there are many other paradigms – ecofeminism for example would be situated within the right-hand side of the participatory column, close to Indigenous paradigm while social constructionism could be situated on either side of critical postmodernism.

4 Life-World in its capitalized form refer to the expansive and deeply interconnected Indigenous Life-World which encompasses spiritual and material reality. This is distinct from life-worlds underpinned by Western rational empiricism and modernist notions of reality which result in a more contracted human experience of reality.

5 Te Tiriti o Waitangi is Aotearoa's founding document. It is a legally binding agreement between the Māori and the Crown (represented by the New Zealand government) that granted governance to British colonists over their own people and the right to settle, while affirming *rangatiratanga* (self-determination) to Māori.

6 Pākehā scholar Alison Jones describes in her memoir how a Pākehā identity can only be grown in relation to Māori. This work of learning to stand "upright" as Pākehā (rather than being caught up in settler guilt) coincides with her arrival at what she terms: "her new training. Thinking like a Pākehā, informed by a Māori point of view" (Jones, 2020, p.190).

7 For example, as part of their 2020 national election platform, in response to Māori homelessness, the New Zealand Māori Party proposed to ban immigration until the nation's housing stock needs were met. However, research consistently demonstrates that it is not immigrants driving house prices up, but rather increased rates of returning New Zealand citizens as a response to COVID-19. Māori activist Tina Ngata points out such policies reinforce blame of migrant groups and white supremacy, by "buttressing and galvanizing harmful ideas of nationalism that obscure the true drivers of injustice towards Māori" (Ngata, 2020, para. 12.).

8 For reasons of ongoing colonization and cultural dislocation, too complex to articulate here this was based on the Plains Cree Medicine Wheel and translated into Anishinaabemowin by Ojibwe Elder Don Ense. (For a fuller explanation see Williams, 2022)

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Lewis Williams, Ngāi Te Rangi (Ngaitukairangi ki Whareoa) is an Associate Professor of Indigenous and Environmental Studies at the University of Western Ontario Canada. Her research and teaching centre on processes and pathways to social-ecological resilience in times of climate and cultural-ecological crisis through the application of Indigenous and placed based knowledge systems. She is interested in how knowledge exchange and partnerships can strengthen collectivist efforts centred around the resurgence of Indigenous knowledge and governance systems. Lewis is also the founding director of the Alliance for Intergenerational Resilience.