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Ontological Upgrade

Indigenous Futures and Radical Transformation

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Abstract

This paper uses 'deep time', as an alternative ontology to crisis management to argue for the application of a broad decolonial approach in lieu of contemporary green design practices. Methodologically, this paper substantiates it claims by utilising conventional academic 'knowledge' production, as represented in literature, references, and case studies, but also supports the expansion of knowledge through a deeper exploration of place, pattern, and time demonstrated by intermingling deep time principles with Indigenous spatial practices. Fearing that urban life will descend into obsolescence and irrelevance if no such knowledge systems are taken up, this paper proposes an alternative trajectory as a preventive measure, which has all been exacerbated by the ongoing pandemic. By exploring alternative Indigenous design ontologies, specifically in Oceania, alongside deep adaptation and deep time, this paper's authors intend to provide an important basis for research and teaching that reinvigorates connections to Indigenous epistemologies and knowledge systems. This paper proposes that by taking up notions of deep adaptation and Indigenous epistemologies as critiques of Western notions of time, property, etc. architecture, design and planning might re-situate ideas, ranging from stewardship to maintenance, within time and place-based technologies outside of the discourse of crisis.

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Keywords

Deep adaptation, Deep time, Decolonialism, Indigenous spatial practices

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Introduction: Positionality and Methods

Descriptions and testimonies of real-life events and experiences can be intertwined pan-geographically to resist reiterating the problems inherent in Western theory and its inclination to re-colonize knowledge through codification and classification. In many ways, the problematics involved in decolonizing knowledge, particularly by settlers, mean that it can only fail. René Dietrich re-situates settler-colonial discourse by stating, '…recent iterations of settler colonial and critical Indigenous studies approaches put an emphasis on how biopolitical and geopolitical forms of settler governance operate on conjunction, as for instance in the ongoing attacks against Indigenous lands, bodies and lives so as to produce colonial space in the United States and Canada (Goeman, 2014) or in the employment of "Indianness" for the transit of U.S. empire (Byrd, 2011) in geopolitical and bio-political terms' (2017, 67).

Taking up a decolonizing position always risks reinforcing how knowledge originates in colonial legacies of power that persist within a deeply entangled sphere of post and neo-colonial oppression. However, this essay is not meant as a manifesto, per se, but rather is a call for deeper thought and action. Intermingling settler colonial geographies is intentional, serving to represent the lived experiences and broadly construed contestations generated in those spaces, as opposed to providing another contribution to a homogeneous field.

While Indigenous knowledge should be made contextual, it also must not be 'curated' by Western ontological systems. Leanne Simpson (2017) reminds us to check our colonial thinking and speak to our grounded normativity in order to disrupt the colonial framing of knowledge and recentre Indigeneity. Simpson demonstrates how we engage with similarities across Indigenous Internationalism by engaging with our own Indigeneity. For Miller, deep time is intrinsically tied to the Kanaka Maoli concept of *mo'okū'auhau*, the genealogy of place. The process of decolonizing knowledge and practices is both deeply fraught and runs the risk of being indiscriminately applied across geographies, cultures, and time. The goal of this paper is not to propose a universalization of Indigeneity, irrespective of specific contexts, but rather to propose a unity of resistant practices using deep time as a bridge. The ultimate risk in all activity categorized as decolonizing is that, by perpetuating the standards of Western knowledge production and academic writing, the context in which people experience, strive, and struggle is either relegated to a type or to a reality in which the experience on the ground is forgotten, or worse, abused.

In summary, this paper proposes that architects, designers, and educators:

- Rethink the universalizing nature of green design paradigms and engage directly with experiences that speak to their contexts.
- Explore alternative critical pedagogies as a path to an Indigenous epistemological shift towards a more meaningful engagement with context.
- Explore -beyond theory- the practical dimension of design as decolonial practice, such as using oral histories in place as a design method.

Deep Adaptation

Ontologies for exploring environmentally conscious design are a method for respecting and taking up Indigenous knowledge systems as a basis for meaningful design solutions and pedagogy. 'Technologies'

associated with ecologically friendly 'green' design have failed by not considering non-Western epistemological frameworks. Jem Bendell's concept of 'deep adaptation' (2020), for example, is a methodology that can be seen to begin to subvert this system that has infiltrated the Western canon.

Discourses that are truly 'deeper', both in meaning and methodology, need to be understood and listened to using a broader perspective that is not limited by classification and geographical distinction, but rather shares ontological familiarity. Contemporary examples of building in deep time from Oceania provide not only case studies to demonstrate and corroborate claims, but also an opening into methods for embracing alternative epistemologies to address climate change beyond the confines of colonial constructs such as qualitative and quantitative, past and future, etc. Current projects, such as the design of adaptive and resilient housing in coastal communities currently being conducted by a team of architects and Rimajol craftspeople with non-profit support, are used to argue for a re-prioritization of Indigenous design knowledge within design practice and knowledge.

Ontology can be said to explain what it means to know reality. While this is not an entirely new concept or approach, specifically addressing of deep time, for example, as an alternative ontology opposed to crisis management, presents another methodology to know our reality. It can be framed as a means to be both more specific and expansive while subverting the problematic aspirations of those who see ecological symptoms as a call to engage in ways, mostly shaped by capital, power, and colonialism, that are counter-productive. Deep time provides knowledge born of millennia in the sustainable and resilient development of ecologically based technologies. In the case of Hawai'i, these are technologies born of crisis in a deep relation with volcanic activity, the ocean, and climatic events. In a Western ontology, 'good crises' always favour the state, restructuring control and hegemony. By framing this reframing as a kind of pedagogy, it is possible to re-see climate change, human inequity, and even building as parts of a cycle of deep time.

> The ecological challenge to critical pedagogy is to expand its socio-cultural analyses and agendas for transformation to include an examination of the interactions between cultures and ecosystems. Just as critical pedagogy draws its moral authority from the imperative to transform systems of human oppression, critical ecological educators posit that an ecological crisis necessitates the transformation of education and a corresponding alignment of cultural patterns with the sustaining capacities of natural systems (Bowers, 1993; O'Sullivan, 1999; Orr, 1992). Gruenewald 5-6

Jem Bendell's concept of 'deep adaptation' is just one example of what may be needed to subvert crisis thinking, but different ways of thinking using ontological systems and discourses that are truly 'deeper', both in meaning and methodology, must be identified to frame the 'problems' of the 21st century city beyond the fetishization of technology and blind faith in capital to fix our ailing planet and bodies. Bendell's notion of deep adaptation originates in a paper he wrote in 2018 in which he explores 'the personal and collective changes that help (and have helped) us to prepare for – and live with – societal disruption and collapse. Mainstream work on adaptation to collapse doesn't assume that our current economic, social, and political systems can be resilient in the face of rapid changes.' (Bendell 2018)

Deep Time

'Deep time' is a method for understanding that binds us through time and space. It is the 'deep culture' that helps locate us in the present – as an anthropologist might consider the thread that provides continuity across the long evolution of a culture. 'Deep time' helps to conceptualize and investigate the significance of the culture-environment relationship and the systems of knowledge developed and

maintained by our ancestors to support us. When located in a specific place, 'deep time' represents intensities – the assemblage of time, space, and the cosmos; it is multidimensional. Applied to the built environment, the threads extending across space and time influence our Indigenous design knowledge, providing the knowledge that produces relevant, supportive, and relational spaces. These technological knowledge systems of environmental design form over millennia across the long evolution of culture-environment relations and are relational as opposed to extractive.

The Western mind has proven itself adept at appropriation and domination of others, of environments, and of ideas as its way of being, while utilizing the asymmetrical power of race, class, and gender to control others in perpetuity. One side effect of this is the degradation of Indigenous knowledge of all types in lieu of a universal modern paradigm of domination and control. Similarly, we see this in the historic refusal to legitimize vernacular architecture as a central discourse within architectural and planning education. Rather, the Western academy promotes privilege and entitlement. Indigenous knowledge systems have a broad perspective on ecosystems and sustainable ways of using natural resources. However, colonial education systems replaced the practical everyday life aspects of Indigenous knowledge and ways of learning with Western notions of theoretical knowledge and academic ways of learning.

> Indigenous knowledge is considered as the social capital of the poor. It is their main asset to invest in the struggle for survival, to produce food, to provide for shelter and to achieve control of their own lives. Most of the Indigenous knowledge disappears due to the intrusion of foreign technologies and development concepts that promise short-term gains or solutions to problems without being capable of sustaining them. The tragedy of the disappearance of this knowledge system is most obvious to those who have developed it and make a living through it. But the implication for others can be detrimental as well, when skills, technologies, artifacts, problem solving strategies and expertise are lost. (Senanayake, 2006, p. 87)

This issue is at the core of what needs to be rethought. To get there, the relationship between technology, land, and Indigeneity simply cannot be explained within a Western ontological system. Rather, the explanation requires engaging with other ontological frameworks in order to understand the integral notion of Indigenous relationality as a first step towards 'deep adaptation'. Design thinking and innovation continue to brand and rebrand a perpetual state of forward moving action with neither cause nor effect. We suggest an exploration of alternative paradigms that run congruent with the western paradigm we operate within to provide visions for a future that is fundamentally transformed.

Even as Western scholars like Bellamy-Foster and others propose the possibilities of a post-capitalist society and the great ecological revolution, we look to Glen Coulthard, Tuti Baker, Leanne Simpson, and other Indigenous scholars to both see Indigenous futures and learn from these radical processes in transitioning to a radically new world of abundance. Indigenous communities learned to live with environmental crisis, survived genocide, and have thrived in the resurgence of their ways of knowing. Listening and learning from Indigenous communities is an essential starting point for deep adaptation.

Shaped by Crises

The current image of our post-Covid future might be seen as one shaped by an ongoing regime of never-ending crises, particularly the multi-tiered repercussions of climate change on all aspects of human existence. The Covid-19 pandemic, which is still ongoing, has been, and remains, an instructive lesson in how short-term thought dominates all of our systems. It has also generated a new body of scholarship relating design to crisis management as an economic problem, as in what to do with all of those empty office

buildings as both assets and health risks (Charleton, Chaykla, Garcia, Keats, Liquori, et. al.). Conventions, techniques, and social practices associated with architecture, design, and urban life will descend into obsolescence and irrelevance, even as new corrective technologies are conceived and implemented. However, technologies associated with ecologically friendly 'green' design, as it is understood today, will not solve problems in the long run.

Solutions will not be easy and will require that we fundamentally change our systems – social, political, and economic, in order to move toward more equitable, just, and sustainable futures. Our responsibilities and roles as architects and urban planners will also change fundamentally as we become frontline workers skilled in crisis management responsible for mitigating the vulnerability of our urban environments and infrastructural systems while ensuring our built environments cease to embed oppression within their structures. With resilience from below, perhaps systems will be more stable rather than constantly responding to shock, that is shock that threatens the hegemonic order.

Deeper Time and Radical Indigeneity

A more radical interpretation of deep adaptation appears in the foreword of Glen Coulthard's *Red Skin, White Masks: Rejecting the Colonial Politics of Recognition.* Taiaiake Alfred speaks of a new generation of, 'Native thinkers and leaders (that) are coming on the scene intent on changing things, entirely' (x). These kinds of radical ontologies, pedagogies, and epistemologies are just what may be needed. Coulthard's seminal text, *Red Skin, White Masks: Rejecting the Colonial Politics of Recognition,* provides a lens for viewing problematics of Indigenous efforts at self-determination and the objectives of Indigenous peoples in Canada as has been cast in the language of 'recognition' by the state as a site for just such ontological reframing.

Coulthard's main argument is that colonial power relations in Canada have shifted from a more or less unconcealed structure of domination to a form of neo-colonial governance that works through the medium of state recognition and accommodation. This means that Canadian settler-colonialism remains structurally intact and recognition, as framed *by* the state *for* the state, may be more insidious than pre-1969 Indigenous relations. In his mind, Canadian settler colonialism remains oriented toward achieving the same power effect it sought in the past with the goal of systemically dispossessing Indigenous peoples of their lands and self-determining authority; it is an ongoing objective and a form of perpetual foreclosure.

The politics of recognition have tended to focus on the empirically problematic and normatively suspect character of recognition claims based on 'essentialist' articulations of collective identity, thus foreclosing Indigenous futurity within a post-colonial shroud. Coulthard's claims, which he frames as 'seeing red' to situate recognition with resentment, amongst settlers and Fanonian cultural practices of critical individual and collective *self-recognition* that colonized populations often engage in to empower themselves. 'Coulthard sets out to map how "the politics of recognition in its contemporary liberal form promises to reproduce the very configurations of colonialist, racist, patriarchal state power that Indigenous peoples' demands for recognition have historically sought to transcend" (3).' (Kam'ayaam, 2014, p. 188)

What this means is that relationships between the apparatus of the state used to recognise and utilise Indigenous technologies remain ontologically frozen within the mindsets of settler colonialism, capitalism, and power. We see this in the recent book, *Lo-Tek: Design by Radical Indigenism* (Watson and Davis, 2020), which demonstrates the perpetuation of intellectual property theft by the white saviour placing individual 'desire' above the rights of those whose knowledge is published without symmetrical benefit. What is needed is an ontological reframing, or revolution, in pedagogy and in practice.

Reframing Techno-ontologies

Ontological upgrades require reframing of perspectives, methodologies, and tools used to position knowledge production as well as of actions that are irreversibly tied to technology, techno-determinism, and fantasies of a green post-capitalism as way out of crisis. We frame everything as a crisis in late capitalist Western ontologies to produce efficiencies, while new technologies and incessant innovation are framed as the cures for all problems, while maintaining the forward expansive thrust of capital.

For example, the drive to use 3D printing in architecture to replace human labour with a technological solution, in which stick framing is exchanged for magic extruded 'goo' that can be made from upcycled materials. This is a consciously disruptive epistemological shift that provides a one-size-fits all solution to the problem of house-making and the question of appropriate form. This shift frames non-human technologies as the future, while relegating stick framing to a past that is both 'primitive' *and* ecologically unsound – both dangerous propositions. The complex interplay of technology, equity, and building is also one that needs to be situated in deep time as a methodology.

Along the way, anomalous apparitions, such as the human-tech fuelled speed and practicality of stick frame construction in the midwestern United States as produced by Amish families continue to defy high-tech solutions that do not adapt to place. The Amish provide a local technology that relies on convention as a form of adaptation. Additionally, Amish 'barn raising' is an important element of the social fabric that enhances community cohesion, producing holistic approaches to wellbeing not centred on the capitalistic mode of production.

In reality, technologies like 3D printing are complicated and require specialized maintenance and parts, consistent electrical power, and specialized training to operate, repair, and maintain. These can only be provided by outsiders, thus reinforcing the technocracy of the *risk society*. The material 'affect' of these new housing typologies also becomes a method to assimilate 'foreign' dwelling practices, from external cookhouses to food sharing, as one sees in Oceania, the Arctic, and across the planet.

Historical precedents that demonstrate how to actualize these theories in practice include the work of Hasan Fathy, Charles Correa, Paolo Soleri and others who sought to balance the labour and form of construction as a reciprocal relationship between people, place, and environment. These lessons have been forgotten as time has passed, while the rhetoric of sustainability has been taken up as a form of branding and neo-liberal fantasy. Following the time-honoured logic of Christopher Alexander and others who saw architectural innovation as an adaptive process that balanced innovation with place-based continuation, in lieu of contemporary versions of pre-packaged ecological design.

> Although the New Gourna project was a failed attempt in implementing theory into practice, the lessons learned are valuable. Fathy failed to elucidate in his process the implications of capitalism on cultural evolution and the social stratification imbedded within the urban environment. This failure validates the need for more thorough systems thinking within the practice of social or humanitarian architecture. (Miller, 2017, p. 3)

Deep Time in the Oceanic Context

Exploring Indigenous paradigms in Oceania shows how Indigenous design knowledge can provide a framework for the application of deep adaptation in very practical terms. A shared Oceanic worldview of deep relationality, deep time, and Indigenous knowledge guides environmental designers at every step of the design, building, and use process.

In *Aelon Kein Ad* (The Republic of the Marshall Islands), deep time manifests within the everyday production of space. As climate change drastically impacts the shorelines of coastal communities, deep adaptation manifests in two approaches. The first is in-situ adaptation, drawing from Indigenous knowledge systems; the second is migration through expansive kinship-based networks, which also draws on Indigenous knowledge systems. In both responses, the following super-patterns play key roles in the production of supportive environments: land as identity, land as abundance, togetherness, one fire, one family, housing as a model for lineal knowledge, and collective action. Land as identity stems from the traditional land tenure system based on matrilineal inheritance; through migration, the family name always connects kinship groups to the land. Togetherness presents a pattern of social capital that is supported by collective action; families provide resources for each other, looking out for the whole rather than the individual. Living near one another develops a system of wellbeing that promotes individual success. Lastly, multigenerational housing forms a structure that supports knowledge transfer from elders to children. These patterns represent fundamental, broad patterns that support community development through climate change adaptation and migration.

FIGURE 1 Photograph of a modified monkijdrik on Namdrik Atoll. This dwelling demonstrates similar material use and structural design to the monkijdrik, but has closed exterior walls as opposed to four posts. Photo by author.

Within the production of the built environment, the design and construction processes are influenced by these super patterns. Traditionally, to build a house, people understood the cycle of environmental production that provided the necessary materials for post-and-beam construction, the lashings, and the thatching. The collection and production of material became integrated within daily life; one person making cordage under the shade of a canopy while another collects dead coral along the beach for foundations and ground covering (see figure 1 for reference). On an atoll, resources are sparse, and thus craftspeople learned to splice smaller wood elements together – techniques they learned from the construction of outrigger canoes. To build a house meant being in tune with the ecological system they held a deep relationship to. Design was incremental: the roof shape became steeper as a response to rain frequency and awareness of stack-ventilation; the floor was raised to mitigate the impact of inundation and benefit from the coolness that proximity to the water allowed. These are processes that continue in Aelon Kein Ad.

Unsettling Settler Spaces

An exemplary project that demonstrates our argument is one being conducted by a team of architects, Rimajol craftspeople, and non-profit support that is testing methods to revive Indigenous environmental design knowledge to produce climate change adaptive and resilient housing for Rimajol coastal communities. Utilising the super-patterns, the design approaches housing from the collective, kin-based system of habitation and deconstructs the imported concrete block housing from the United States (refer to figure 2). In this way, the spatial design prioritises communal living and relationships rather than the individuality produced by coloniality. Building off a national forest management strategy integrated with the Reimaanlok national adaptation strategy, the housing project utilises coconut lumber. The design details draw from the technology developed to build canoes from sparse resources, allowing for construction to be undertaken with minimal tools and materials. Deep time provides a mode for communities to reclaim their knowledges, even when faced with the influence of coloniality.

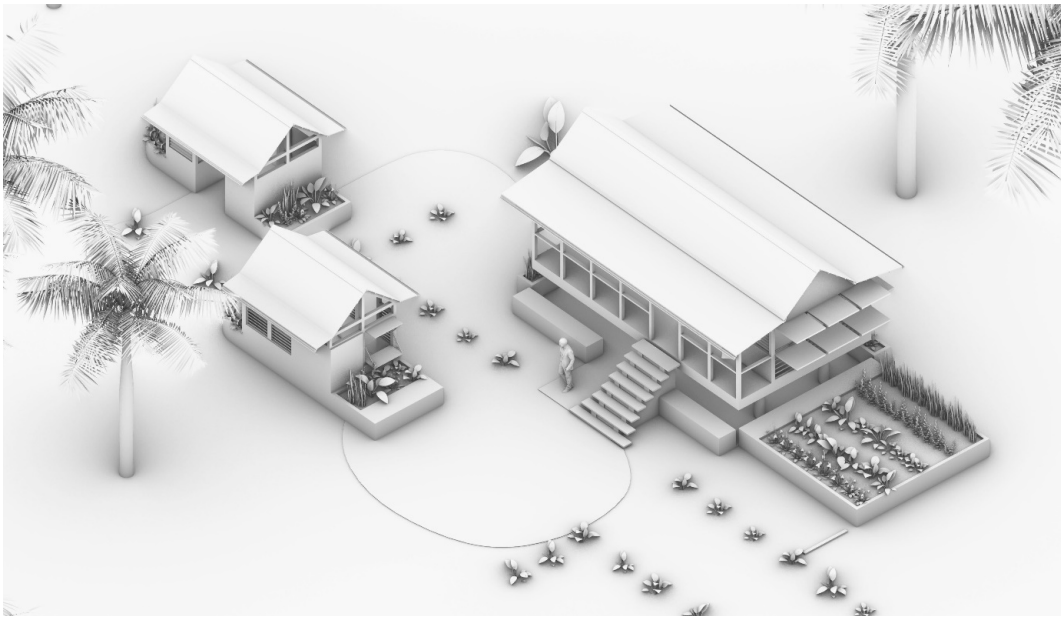

FIGURE 2 Illustration of the Rise Up Marshall Islands, a prototype housing project driven by the concept of housing as a cultural practice for place-based sustainability. Design team: 'Ike Honua + Metaamo Studio, Living Islands, and Sherwood Tibon. Illustration by Jade Danek.

To demonstrate yet another manifestation of alternative design ontology, Indigenous design knowledge maintains wholeness, spaces that are nurturing and beautiful, informed through grounded normativity.[1] Kapalama and Palama, Honolulu, Hawaii represent a colonized built environment to the passer-by. Beyond their façade, however, we see the processes of deep-time uncovering and reclaiming this space in the storytelling of residents and families that have grown from this land across generations; families that remember lower Kalihi as a space for Hawai'ian royalty, fishing, and harvesting. Approaching Indigenous urbanism as a process of delinking and unearthing Indigenous spaces, we come across a new form of urban design. As the Mo'okū'auhau (genealogy of a site) of Kalihi Ahupua'a is readdressed, an unravelling of histories brings to life a Kanaka Maoli space freed of white privilege and white supremacy. This space once again prioritizes a land-based ethic of relationality through grounded normativity. Mo'okū'auhau represents the first stage in a design process to reclaim urban space as Indigenous space. Spaces created as whole nurture the Indigenous habitus, and this process persists despite being located in settler-colonial states, diasporas, or the militarization of Moana. This perspective on design within architecture, urban design, and planning generates spaces that unsettle settler spaces.

Furthermore, the recent mainstream book, *Our Voices: Indigeneity and Architecture (*Kiddle et. al. 2018) provides further evidence of a desire for alternatives to typical green design discourse, which depends upon design ontologies framed by Indigenous worldviews as a lesson. Indigenous architects, such as Douglas Cardinal, John Paul Jones, and Chris Cornelius approach architectural design from different ontological lenses. While the work operates within capitalism, the prioritization of new design ontologies is prescient. The work centres the knowledge of elders within communities and establishes their authority as stakeholders in the project, as opposed to allowing the interests of the primary client, often an institution, to dominate. These architects and their projects represent new or modified design ontologies; however, does their work go far enough to delink from coloniality?

The text demonstrates a reversal of the trend of focusing on the technological contributions of Indigenous design knowledge as a limit. Rather, it is the broader patterns of Indigenous knowledge in the production of the built environment that are significant in how the work is discussed and theorized ontologically. The example of Kanaka Maoli urbanism demonstrates that the ontological shift presented by Indigenous design is not just one of technological adaptation, but rather one that applies deep adaptation as a decolonial response in the reclaiming of urban spaces for the Indigenous city. Sean Connelly frames Ahupua'a urbanism through his work on *Hawaii Non-Linear*, the *Ala Wai Centennial*, and *After Oceania* through a similar ontology that prioritizes the life of the land, or Aloha 'Āina. We cannot stop at the spatial design of the building, but must redesign the architectural process holistically – from the cognitive space to the urban space. In this process, Indigenous design presents itself as an effective ontological model for deep adaptation as it does what it has always done.

Conclusion

The dialectical relationship between environment and culture, as expressed and witnessed in the design of the built environment, is not balanced and supports the subjugation of others through technology's mythical ethos of universal equity. To provide equity and efficacy within the dialectic of environment and decolonization, non-Western paradigms of metaphysics must be prioritized, taught, and valued. Indigenous knowledge must be situated as a framework for seeing the world though a lens of crisis management

1 Grounded normativity refers to the ethical frameworks provided by land-based practices and associated forms of Indigenous knowledge (Coulthard and Simpson 2016, p. 254).

that may even subvert the notion of what crises are actually occurring. It should be valued as something of extraordinary ontological significance to re-addressing the problems of the city: an ontological upgrade, if you will. The goal of this project is to provide an outline for educating the next generation of urban designers, architects, and urban planners to be prepared for the radical transformations necessary to sustain a healthy and equitable future. We see this project taking place at the margins through dispersed Indigenous faculty, but argue it needs to be centred within the pedagogical revolution of environmental design and knowledge production.

This broader definition of knowledge is also known as local knowledge, folk knowledge, people's knowledge, traditional wisdom, or traditional science. This knowledge is generated and transmitted by communities, over time, in an effort to cope with their own agro-ecological and socio-economic environments (Fernandez, 1994). It is generated through a systematic process of observing local conditions, experimenting with solutions, and readapting previously identified solutions to modified environmental, socio-economic, and technological situations (Brouwers, 1993). Indigenous knowledge is passed from generation to generation, usually by word of mouth and cultural rituals, and has been the basis for agriculture, food preparation and conservation, health care, education, and the wide range of other activities that sustain a society and its environment in many parts of the world for many centuries. Indigenous knowledge is the unique knowledge confined to a particular culture or society. (Senanayak 2006)

A year ago, we might have argued that settlers taking up Indigenous epistemologies in architectural thought by including Indigenous voices may create a path forward. However, it has become increasingly evident that the 'two row wampum' may be a more realistic framework to protect Indigenous intellectual and cultural property from appropriation, commodification, and further colonization. Architecture fetishizes 'orientalism', remaking the exotic as a mode to control the colonized other. In the proliferation of Indigenous architecture in the mainstream of Western architecture practices and academia, it is more likely that the appropriation of design knowledge is in the service of white supremacy rather than in service of Indigenous peoples. Within frames of social justice and socially focused architectural design/practice, the notion of capacity building is framed within a capitalist understanding of commodification of labour and of resources; Indigenous practices are by no means taken seriously. This is essentially a repackaging of social entrepreneurship to escape Roy's (2009) critique of this neoliberal driven ideology of development. It is about who is control of power. To honestly forward Indigenous architecture, a transformation of power must take place. Otherwise, leave Indigenous practices to Indigenous peoples. 'The Haudenosaunee see the Two Row Wampum as a living treaty; a way that they have established for their people to live together in peace; that each nation will respect the ways of the other as they meet to discuss solutions to the issues that come before them.' (Onondaganation.com)

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