



## Learning on the Move Toward Just, Sustainable, and Culturally Thriving Futures

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# Learning on the Move Toward Just, Sustainable, and Culturally Thriving Futures

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## ABSTRACT

This issue is particularly timely, in its plea to the field to understand that human learning and development have always been on the move—always migrating—even if and when we construct sedentarist bias and territorial boundaries of the nation-state as normative or when we remember or remake as “ambulatory we’s” as we engage in “ongoing re-collection and re-membering of dynamic social and spatial relationships”. As each paper in the issue makes poignantly clear with important conceptual and methodological contributions, place is always in the making through our movements and relations, through our ways of coming to know and be together, and through our creative and accountable analysis, data, and narrative. Non-movements are social constructions—humans, like all life, are mobile. Non-movement is an historically accumulating bias that serves the long trajectory of powered struggles in western knowledge systems and societies ontological assertions of human exceptionalism and supremacy. Mobilities, migrations, and places—how we see them, how we make them, how we dream them and how we story them—are consequential. Each paper in this issue contributes unique insights into how learning and development are always on the move—even despite the sedentarist bias that has dominated learning and the construction of human knowing and activity since enlightenment—and this issue helps to create new pathways of scholarship.

## Learning on the move toward just, sustainable, and culturally thriving futures

Action on behalf of life transforms. Because the relationship between self and the world is reciprocal, it is not a question of first getting enlightened or saved and then acting. As we work to heal the earth, the earth heals us. (Kimmerer, 2013)

For the responsibility of our species is to perform responsible tasks with respect to each form of life that we encounter, learning from them the basic structure of the universe, and ensuring that they receive in return the respect and dignity accorded them. And this acknowledgment of the dignity of other life forms, which is simple but profound recognition, underlies all Indian attitudes toward the organic world. (Deloria, 1999, p. 131)

Our task is to live in such a way that the information we receive through analysis [of the relationality of the organic world] becomes – over the passing of time and through grace and good fortune – our experience also. (Deloria, 1999, p. 251)

The times of COVID-19 have made what Marin (2020) called the “co-mingling landscapes of the physical, spiritual, intellectual, social and emotional” dimensions of life across the earth collectively visible, palpable and immediate in ways that we have never experienced before—in part because of global technologies. The pandemic, and the co-occurring protests which I see as part of the pandemic, have clarified and amplified the maturational challenges we have as a species (Deloria, 1973, 1979) in the twenty-first century if we are to create just, sustainable and culturally

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thriving worlds—in heartbreaking ways, in historically accumulating ways, in profoundly humbling ways. As Deloria started arguing more than 40 years ago concepts of relationality and responsibility—the core of Indigenous axiologies—are central to our development as a species—our continuous maturation into ethical humans—and should be the core purpose of education (see Richardson, 2007 for a compelling review). From my perspective, the pandemic, and the protests, have created new possibilities for our maturation as a species as they have both clarified our ethical responsibilities to make new worlds and brought about new conditions for their possible formations. A key question that we will need to recursively ask is: what continuously evolving epistemic, ontological, and axiological multiplicities are we enacting and engaging in the remakings and rescalings of the shifting landwaterscapes of life? The articles in the special issue focus on spatial and relational arrangements and I have found them resonant with Indigenous knowledge systems, even if, with the exception of Marin’s paper, they do not draw on them explicitly. Engaging with each piece has been generative for me and helped to illuminate new possibilities in making new futures.

The continual revelations of the intersections and relational construals of natural worlds and social worlds at various spatial scales in these times of COVID have been profound for me. As humans’ mobilities have dramatically constricted, more-than-humans’ mobilities have intensified, expanded and it seems the earth is in a time of respite. Human diasporas defined by human supremacy, capitalist labor and extraction in the here and now as well as the “here and then” (e.g., Hall et al., 2020) have slowed. However, the obviousness of the co-construction our familial and educational geographies with these same phenomena and the co-contaminant manifestations of white supremacy, classism, and inequality have rapidly heightened. As I make the final edits of this piece, protests have erupted all over the United States, human mobilities are demonstrating that we have had enough of the geographies of life defined by anti-black racial violence. I do not know what will rise in the coming weeks, or months, or years, but I know that we are at a turning point and that this moment in history could become consequential for generations to come, should we collectively decide and act to make it so.

There are a number of turning points, or shifting sensibilities and conceptual approaches, that are slowly propagating across a range of disciplines—both physical and social—that may be important in the “how” of our remakings. Some of these turns are more mature and have been unfolding for decades, some are still quite young and ripening with possibilities. And to be sure, some really aren’t new turns at all, it’s just that who is in the academy is changing and we are beginning to find new ways to study and know beyond western normativity. To be clear this list is incomplete and imperfect. I merely point to them here in the hopes that as a field we’ll continue to work toward seeing the possible turns that are afoot and the ones we continue to need. For my own work the following turns have been key: the practice turn, the systems/systemic turn, the ontological turn, the affective turn, what I tend to think of as the axiological turn, and as exemplified in this issue, the spatial turn. The practice turn, a moving beyond box models of culture, race and identity toward conceptualizing and studying the constellation of practices and activity in which these are developed, lived, navigated, and could be nurtured was central to my training as a scholar. The systems or systemic turn, I see as including the deeply transformative work on systems of power and inequality and also the important work on shifting from binaries to complex systems and emergences in a range of fields like cognition, ecology, computer science and quantum physics. The ontological turn, sometimes referred to as the relational ontologies, or post-humanisms, or new materialism, is in my mind a turn for western knowledge systems. While I find aspects of this work insightful and promising, especially if it helps move us beyond human supremacy, this turn is in danger of being another act of epistemic violence—of Indigenous erasure, anti-blackness, and of enabling and glorifying extraction paradigms to produce unsustainable technological futures. In my mind while this issue leads with the spatial turn, these other turns are layered throughout each paper in different ways. I aim to emphasize the

affective and axiological turns, with the spatial turn (layered with the others), as part of my contribution to the issue. I see, the axiological or ethical turns and the affective landscapes and movements we need, as necessary for the field to continue to mature, in the Delorian sense.

My hope is that as humans we are growing our understandings of the scopes of relevance involved in complex socio-ecological systems, which includes human learning and development, as well as sharpening our relational (Taylor, 2020; Warren, Vossoughi, Bang, Taylor, & Rosebery, 2020) and heteroglossic attunements (Vossoughi, 2014) of our locative literacies (Taylor, 2020, 2017) so that we might build new worlds. Radinsky's argument (this issue) about the intersections of data, narrative and circulating references are starkly evident as debates over what data is real and reliable, from which geospatial configurations, with which narrative interpretation echo across countless media outlets throughout the day. As the pandemic has unfolded the false and misguided promises of human segregation, control, and domination over the natural world as a premise has again been made clear. Equally clear is the ease with which public discourse that render some lives expendable are being remade.

Early in the onset of the pandemic, our daily rounds (e.g., Taylor, 2018; Hall et al., 2020) were dramatically reconfigured and new geographies and mobilities were made overnight. I was furious about the term "social distancing" and went on social media tirades. It felt like the term "social distancing" was rhetorically careless and dangerously missed the mark on facilitating both the spatial arrangements and relational construals we would need to be resilient in these times. Ma & Kelton's, as well as Marin's work in this issue, makes visible how people in relation with their environment accomplish the coordination of attention and "ambulatory we's," what I see as the coordinated corporeal arrangements for meaningful and collective sensemaking. At the beginning of the pandemic many of our elected officials and policy makers failed to develop a vision or leadership that facilitated collective sensemaking and a resilient "ambulatory we" that would help us migrate to new forms of living. This failure of leadership is persisting, as policies around "opening" are being driven by economic logics, and the nation-state is doubling down on its investment in and legitimation of black death. There is a profoundly problematic "normal" re-emerging. Like pre-COVID times, paradigms defined by the drive for economic recovery and risk mitigation, and racial violence, all move organizing paradigms away from humanity and collective thriving and toward white supremacy and individualisms. Of course, we needed and continue to need physical distancing. But humans are social beings and cultivating a sense of social closeness, not individualism, is necessary for us to collectively and sustainably thrive. And as we are seeing, some of us are willing to risk exposure to COVID to do what is right—because continuing to live with the racial violence as foundational isn't living.

I, like the authors in the special issue, started this commentary before the global pandemic. Before family life was restored to the center of life and capitalistic labor's unquestioned authority to shape the movements of our daily lives was desettled. Although some of what I think and write here in this commentary is from before, I am working on my relational attunements and geographies of responsibilities (Massey, 2004) of the now. So I write this commentary deliberately in a different key. I write to and with the authors of this issue and work to integrate their remarkable contributions into my own learning in these times. I write to share where I am in the world in these times deliberately with my own multiplicities of knowledge systems (e.g., Ojibwe, Womanist, Learning Scientist) and to share a set of wonderings and provocations that arose for me as I learned from these papers. Although it feels unorthodox and maybe risky, in this commentary I am deliberately working to unmute my multiple identities and ways of knowing and being—especially those as mother, auntie, and grandmother—in writing that will be published. Even though multiple colleagues who gave me feedback on this piece worried what the consequences would be and how the field's perception of me would slowly shift, desettling the anti-family models that are rapidly being reproduced in these times seems to call for some new approaches. I am always working to see and understand children—who they are, how they learn,

what they love, how they move in the world, what they struggle with, what they need, what they dream for—and how I can support, learn and grow with them—what I see as my ethical responsibilities. I also work hard to see the political dimensions and implications always tied to this labor. My thinking has been nurtured by a wide range of critical scholarship in different disciplines that help me understand political and powered dynamics in human life. But I have also struggled with how much the theories of change that are implicated in much of critical work, feels adult centric, and maybe even anti-child, but at the very least not specifically inter-generational. When I read critical work now, I count how many times the word, child, children, youth or young people come up in articles (try it, it's clarifying). The absence of children in text that nurtures my political thinking made me refine this practice to start marking when I think the author intends for child inclusive meanings in whatever formation of “the human” and community they are crafting. I still tend to find the absence of children haunting and telling. I worry that it is an indicator of how western framings have persisted in our thinking. As I have reflected on this issue, I began to realize that age segregated spatial arrangements are often assumed and reproduced in a wide range of scholarship and often drive theories of change. I often feel like our theories of liberation speak to adult worlds—not multi-generational worlds that include young children or worlds in which children are always full and present participants or aren't relegated to the background of adult action. Age segregation is a colonial technology of disrupted remembering and deliberate forgetting—not one of thriving communities. For me writing in a new key is working toward disallowing the persistence of age segregation in thought.

I assume the audience in this piece to be mostly not Indigenous and thus I ask readers to be slow in your sensemaking as to not reproduce meanings defined by colonial difference (Deloria, 1995; Mignolo, 2012) of my piece and of each piece in the volume. Radinsky (this issue) demonstrates how particular narrative and referential systems create worn trajectories of meaning—but when dislodged can make space for new meanings. I hope readers can work with me toward that. For those readers who are Indigenous, I hope we get to talk more about what forms of storywork (Archibald, 2008) and reframings (Smith, in press), which I see writing as doing, are worth doing now and in the future, and for whom. I am working to cultivate a new rhetorical style in my own storywork that I hope will give rise to new pedagogical possibilities that emerge from generosity even for those who might not yet deserve it—for my own wellbeing and for others. Deloria (1973) recognized the multiplicities of emotional arrangements that different knowledge systems, especially spatial epistemologies, and unfolding histories in places produce. While the realities of these emotional arrangements have been central to the ways that I have understood the “rational” and “objective” constructions of man in human and white supremacy societies (e.g., see Wynter, 2003) and western science, as well as the political and powered construals of governance structures (e.g., nation states and Indigenous sovereignties), the everydayness of these times has brought new dimensions of Deloria's insights forward. Richardson (2007) writes of Deloria's concepts:

It suggests a process of maturation that dissolves the distinctions between knowing and being – expressing an orientation focused on the becoming of the experience of being in a maturing relation to the organic world in concert with a recognition of the emotional experiencing of that experience individually and as part of a social group. (p. 226)

I have been working to excavate colonial claims to my own emotional landscapes and expressions in order to lead my thinking and doing from places of intellectual and emotional wellbeing and hopefully maturation—what Dian Million (2009) has called “felt theories” or an Indigenous feminist approach to affect and history. I have felt out of sync with how others are feeling in these times. While others were in mourning, I was feeling profound hope and could almost taste that new worlds could possibly emerge—I wanted to get to work. And when rage, sadness, and exhaustion emerged for me, others seemed to be finding their stride despite and in the madness of this pandemic. What is sometimes clear to me is how much these different emotional rhythms

are tied to people's own understandings of mass death, pandemics, and the ways in which societal structures mediate crises. Many people first saw the pandemic as purely biological but then became shocked at how structural inequalities and politicized decisions mediate the outbreak and the responses in ways that cost some lives more than others—I thought to myself, really? Some of you must really believe that the biological warfare that decimated millions of Indigenous peoples in the Americas was unintentional and inevitable. Apparently, many people really have no clue that smallpox vaccines were withheld from Native peoples in the 1800s—far after settlers' arrivals to our shores (see Frost, 1990). Or perhaps people haven't taken seriously till now that systemically and intentionally produced malnutrition and other health inequalities that were part and parcel to Indian policy across the history of the United States made Native peoples more susceptible to health crises—and continue to. I thought, apparently, the myths of our untouched and fragile biologies are much easier to digest than for people to reckon with the deliberateness of the US's genocidal history and biological warfare. In other words, the shock and surprise of the unfolding pandemic felt like settler privilege and moves to innocence (Tuck & Yang, 2012) on full display to me. The range of classed privilege and the wealthy's ability to flee the dense urban environments to “safer” places— with no regard to how they may be the carriers to the not yet infected rural communities—outbreaks that we are seeing unfold everywhere now—felt eerily familiar to these narratives of innocence. Wealthy urban dwellers' movements seem to have little thought about rural communities' infrastructures, and at the same time the isolation and calculated death of elders have been normalized. Perhaps creating equivalencies here is callous, perhaps I need the idea that we have survived worse things and that with commitments to “collective continuance” (Whyte, 2013), we'll be ok. But the settler privilege has made me rageful and I have been working to remove both rage and settler colonialism from any ontological reign.

For some time now I have been sitting with the idea that rage, nor criticality alone, raises thriving children. None of my own traditions celebrate and elevate rage as a human accomplishment—and certainly neither do our original instructions that tell us to labor toward the good life—mino-bimaadaziwin. So while I often feel enraged, and rightly so, I have been learning that, like some other emotions and forms of thought, rage isn't a good leader. I see this as a kind of learning on the move as well—perhaps an affective one. I am laboring to develop rhetorical formations that are birthed from my original teachings rather than seeds that have been modified through settler-colonialism and the ceding of ontological ground to negations. I have learned from Toni Morrison, as well as many other authors, language is an act with consequence—so is living. As a mom, I know that my parental practices and ways of knowing and being emphasize the ethical dilemmas of life—the relational and the reciprocal responsibilities we have—and I trust that my children's political selves and identities will emerge in lived and relational pathways from there—that they will do what is right in the places they find themselves. Some days I worry though that developmental challenges of navigating the ontological denials and erasures born of settler colonialism that schooling embodies in every second of the day might do irreparable harm to their ethical development. They have to learn to respect and learn from people who quite literally assault them daily, even if unintended.

The scales of invisibility, illegibility, and outright racism and sexism I and my family as Native peoples have been experiencing has been deadly, exhausting, enraging, and sometimes debilitating before COVID and again during COVID. I see these constructions as examples of the circulating references and vectors in Radinsky's paper. As I write, my octogenarian father-in-law's siblings as well as several other cousins, nieces, and nephews in Navajo are struggling to survive COVID; two brothers are in Cook County Prison, a site experiencing one of the densest outbreaks of COVID in the country; another brother released from prison days before the stay at home orders were issued is struggling to stay housed and fed and yet probation keeps him confined geographically; most of our family members have lost employment; and under our own roof in addition to

keeping my father-in-law safe, my partner and I both have “underlying health conditions” that put us in higher risk categories.

I have also been learning new things about myself as a mother—some of which I like and some—well not so much. These elongated interactions with my own children made possible because of the pandemic, which most days I feel grateful for but sometimes want space from, have been both beautiful and revealing in so many ways. Beautiful, for I am able to see and support my children explore and grow and change and cope every day. For us, remembering an “ambulatory we” in the new micro-rounds of our daily lives has also been beautiful. For example, we have learned more Ojibwe language in these times together as a family than ever before. We have made art and played games. We have cooked and read books together. We have planted our garden and keenly watched as the seedlings emerged. We planted new berry bushes around our yard and continued to cultivate Native plants around our house that we will harvest and use for food and medicine. We have watched the robins and cardinals make nests, roost on their eggs, feed their young, and now we wait for the babies to fledge. My son has practiced driving so he can get his license soon. My daughter graduated 8<sup>th</sup> grade. We have spent time doing important life labor and working to extend ourselves and each other love and grace.

But these times have also revealed the limits of my own practice in being and doing with my children daily for the whole day! There have also been emotional landscapes daylighted from the micro-rounds that are perhaps less graceful than others. Perhaps the most disturbing revelations to me are the many places and moments where my kids have grown to see my absence as normal (and sometimes desired!) and the perspectives and voices of others as normal, and I there’s. My story is not unique and is not meant to lay claim to anything. Millions of people have a unique story just like this. What millions do not have that I do, is the scope of privileges that comes with recognized and legitimated expertise and economic security. We are housing secure, food secure, job secure, technological connected, amongst other forms of privilege. While living and weighing these different realities, I have been laboring to speak truth that honors profound loss and grief, as well as demands for this time to be more than the negations and harm unfolding. I am working to speak from and recognize that we are also in a kind of in-between time. I am trying to reach for the possibility that we are also in a time of birthing, a time of creation, a time of possibility, a time of imagining and future making.

In my community, in-between times are sacred. They are times for the remaking of relations, of remaking ethical commitments to living as good humans, and for expressing gratitude for the gift of life and honoring of and being responsible to our role in the collective of all life. For us this happens daily at every sunrise—as well as the moments before the sunrise—the time we call *biidabin*. *Biidabin* is a place elsewhere of time. It is of prayer—for me it has always been a place-time of deliberation, remembering, guidance and humbling gratitude for living and being well. We have stories about how *Biidabin* came to be—a story about how human people weren’t living right—weren’t doing right—and the gift of life in the world as it was, was going to be withdrawn. In our stories, *Miigizi*, Eagle, witnesses for us, acknowledging that many had lost their way but not all, and asked for us to be gifted more time, more space to be, more life. *Miigizi* loves us, sees us, and believes in us and what we can become. *Miigizi* in this story has taught me, amongst other things, what is fundamental to being a good educator and about our responsibilities to witness for our students.

It seems that people are slowly realizing the world before COVID is gone and new worlds and ways of life are emerging. We are deliberating about *what could be* and making consequential (e.g., Gutiérrez, Higgs, Lizárraga, & Rivero, 2019; Gutierrez & Jurrow, 2016; Jurrow & Shea, 2015; Lee, 2001, 2007) decisions about *what should be* now and in the future. While the most vile of assertions from previous worlds, things like white supremacy and the expendability and murderability of Indigenous, black, and brown bodies, or capitalism, extraction, and privileging of economic labor over life labor, are certainly being devastatingly reasserted as the terms of the next

world—I am unwilling to succumb to colonialities totalizing logics and claims (Mignolo, 2007). As Linda Smith has said in reference to Indigenous peoples “this isn’t our story.” I have taken her to mean that the narratives explaining what is happening right now isn’t our story as Indigenous peoples. These narratives are not the ones we need as Indigenous people. I have been spending lots of times with our stories—our stories are our theories (Brayboy, 2005). I have been spending time thinking with our genealogical stories, our monster stories, our stories of finding our strength, our birthing stories, and with other stories. They have helped keep me ethically centered and lovingly bound to those that came before, to those that lived their lives in ways so that we might be here, to those that have lost their lives, as well as and maybe especially to those yet to come. I have been working to make sense of and take up my roles and responsibilities to contributing to midwifing the next world.

Expansive could and should toward just and sustainable worlds require seeing and engaging with what has been—honestly and clearly or we will reproduce the social and material arrangements of past worlds. Perhaps one of the greatest challenges we face is in our practices and capacities for dreaming what could be from places that aren’t defined by the ontological denials and negations of the past worlds—those defined by human supremacy, white supremacy, heteropatriarchy and logics of capitalistic labor, extraction, domination, and erasure. We must learn to remember, dream and story anew nature-culture relations—and importantly this issue reminds me to emphasize how those relations are always on the move and always layered and shaping the present—even if in the “here and then” (see Hall et al., 2020).

As a field we have many important discourses that make the array of powered constructions and their impacts on family and educational life seeable. However, times of COVID have further crystalized how our familial relations, structures and daily rounds have been shaped by racialized capitalist labor in ways that are not always centered. For some, those whose children who are no longer in school buildings, this has meant that intergenerational life is no longer segregated and whole new layers of child-adult relations are being redefined, as well as sibling relations for some. For some, those who do not live under the same roof with all of their familial relations, the segregation has been solidified in ways that are profoundly isolating. Both of these cases, and many others, have made visible how fragmented and separated families are core to capitalist structures. Simultaneously, the relational construals between families and a range of institutions and the axiological underpinnings guiding these relations have also been exposed anew.

The role of educators and education in our lives as central to social and economic functioning is reflected in discourse and deliberation on the daily. So are educators’ commitments and love of their students. At the same time however, the historically saturated assumptions that schools are the places where productive learning happens, and families and communities are not, are also quite clear in the daily narratives emerging from schools. The explicit rhetorics and justifications of seeing families and communities as lacking worth and being the places from which children should be removed are often positioned as justifiable and seen as specific to particular moments (e.g., immigration, child abuse, boarding school era, slavery). We as a field rarely recognize these profoundly deficit relation construals are the structural assumptions that are continually reproduced—at least in the United States (Fryberg & Bang, 2018). Schools are sites of “here and then” (Hall et al., 2020) education-family relations defined by assumed epistemic supremacies instead of multiplicities (e.g., Warren et al., 2020), racist and classist assertions of good childrearing, and forced compliance that have legitimated institutional claims to children and their “physical, spiritual, intellectual, social and emotional” development. Indeed, these assumptions are legalized through compulsory attendance laws that result in the criminalization of nonattendance to schools, both of students and their caregivers, through truancy and constructions of child neglect. Of course, there will be those that bristle at these sentences. And certainly I do not mean to claim that everyone has intended this, though some have, and regardless of intent it is nonetheless an accurate account—at least in part. Taylor’s paper in this issue helps us to better understand the



ways in which we might engage the epistemic tensions and denials of epistemic heterogeneity (Rosebery, Ogonowski, DiSchino, & Warren, 2010; Warren et al., 2020) as valid or desirable that have led to this paragraph, rather than dismiss it.

For me, epistemic, ontological and axiological heterogeneity, what is increasingly being articulated as pluriversality (e.g., Escobar, 2020; Mignolo, 2018), is essential should we transform the complicated, damaging, and surprisingly inverse relations between natural worlds and social worlds that have shaped these times. We cannot yearn for a return to normal. That we consensually invest our efforts on creating just systems of thriving and sustainability—not on recovering academic learning loss and constructions of children as future economic contributors—as our foundations to build from. Pre-COVID normal was devastatingly unequitable for many of us and unsustainable for all of us. Let's not aspire to return to normal. As we have all been glued to the data, models, and the many competing and contradictory narratives we see repeated, both about COVID and the police state we are in, we are all asking what should we do? Let's also ask what new ways of seeing, doing, being do we need?

I think a fundamental aspect of seeing anew is in cultivating our abilities to see remembered places and newly made places while we learn to move and be differently in the world, collectively. This issue is particularly timely to me, in its plea to the field to understand that human learning and development have always been on the move—even if and when we construct sedentarist bias as normative or when we remember or remake as “ambulatory we's” as we engage in “ongoing re-collection and re-membering of dynamic social and spatial relationships” (Kelton & Ma, 2020). As each paper in this issue makes poignantly clear with important conceptual and methodological contributions, place is always in the making through our movements and relations, through our ways of coming to know and be together, and through our creative and accountable analysis, data, and narrative. Non-movements are social constructions—humans, like all life, are mobile. Non-movement is an historically accumulating bias that serves the long trajectory of powered struggles in western knowledge systems and societies ontological assertions of human exceptionalism and supremacy (Grosfoguel, 2013). Mobilities and how we see them, how we make them, how we dream them and how we story them are consequential. Each paper in this issue contributes unique insights into how learning and development are always on the move—even despite the sedentarist bias that has dominated learning and the construction of human knowing and activity since enlightenment—and helps to create new pathways of scholarship.

The most salient dimensions across the papers that this issue makes viscerally present in my thinking is the contradictions and possibilities of our spatial arrangements, mobilities and the relational construals and attentional devices that mediate them. I have long been interested in how the spatial nature of relational construals shapes thought, identity, practice, and ultimately the powered unfolding of communities—particularly those between humans and natures. My work has been focused on designing land and water based learning environments that create the conditions for young people to learn and grow with Indigenous ways of knowing and being. In partnerships with a range of scholars, educators, scientists, artists and many other members of Indigenous communities we have worked to develop and expand the educational diasporas that we imagine and enact. Central to this work has been walking, reading, making and storying land, water, and our collective relations (e.g., Marin & Bang, 2018). A key issue we have been exploring, and I think this issue further reveals, is the deep mistake we make as a field when “context” is relegated to a mere backdrop for the consequential (Kelton & Ma, 2020) or the positional paragraph in knowledge making. Places teach people and people learn with and from places. The papers in this volume illuminate how these issues are an intertwining of epistemic (e.g., see especially Taylor, 2020; Radinsky this issue), ontological (e.g., Marin, 2020), and well as axiological (see all).

The entire issue takes up, though from different perspectives, how epistemic tensions are always in motion and are at the core of how power has been construed and negotiated, and helps

us to see how we might do it differently. While each paper does this, I highlight that Taylor, Radinsky and Hall et al.'s work especially extends how we understand the dynamics of creating consequential learning environments to always see their historically contingencies and what forms of participation across time, space, and social relations we make engageable and deem important for young people to experience. Taylor (2020) shows us “*how* co-participants accomplished epistemic commensurability even though their experiences/knowledge(s) of the same place were varied.” Importantly, she demonstrates how these accomplishments are tied to peoples’ enactments of relational attunements of power and historicity as new spatial imaginaries are formed by multiple epistemologies. As a field I think we must take seriously her question of what happens when we design with and for epistemic tensions. I wonder about how it is that we engage and construct what tension means or could mean? Taylor has shown us that the accumulations of powered tensions are not immutable or avoidable. Their silencing is not productive—it is just another layering of inequality.

What Taylor’s paper as well as Hall et al’s paper did for me was to invite me to imagine and wonder about what would happen if we grew our capacities to understand and engage tension—ever an interesting phenomena, especially social tensions. Tension is often imbued with negative valence and our responses are toward reduction and resolution. But what if tensions were another way into engaging and narrating energy, love, hope, need, or ethics generatively? What if we saw corporeal arrangements and movements and the many forms of “data” that are and can be generated as both expressions and transformations of these kinds of tensions? How might learning environments cultivate “known vectors” and “strategies of communication” (Radinsky, this issue) that emerge from the ontological and axiological ground that sees tension as moments of birthing new life? Radinsky’s and Hall et al’s papers layer this question for me in important ways to ask how new data and new narratives as well as old narratives or muted narratives along new pathways or storyline might be necessary for us to do this. I wonder what it would mean as a field if we took up and wrote into the tensions in our data from new affects? What new would learn? The tendency to report only the positive in our designs is a bit like seeing null findings as non-findings and I sometimes wonder if it is a kind of dehumanization that cultivates performative, not lived, righteousness.

Marin (2020) further layers my wondering about how we choose to “bundle” data and the many ways in which the making of data bundles is a profoundly ontological act mediated by one’s axiological commitments. Marin elegantly narrates her own genealogies and how she came to make the epistemic decisions she did in her own work. The rigor with which she is working at the generative intersections of both Indigenous knowledge systems and the learning sciences to break trail on new methods is undoubtedly illegible to many and yet they reflect Deloria’s intellectual maturation. He says:

Maturity in the American Indian experience is the ability to reflect on the ordinary things of life and discover their real meaning and the proper way to understand them when they appear in our lives. (Deloria, 1999, p. 13)

Richardson (2007) interprets Deloria’s use of “real meaning” to mean, and I quote in extensa, “recognizing the relation between ordinary things. That is, the real meanings of things emerge in the studious recognition of the relations necessary for the ordinary to appear ordinary. In such an interpretation, “proper understandings” might also be seen as a shorthand way to indicate a process of maturation in the relational as most meaningful—the joining of ontology (the always already being in relations) with the epistemic (knowledge and meaning making as already relational). Moreover, this process is placed into the flow of the human experiencing of experience” (p. 227).

What if this was the purpose of schooling? What if we held that schools and other learning environments are shaping young peoples’ attention and practices of bundling “data” in the world as a practice of sensemaking to reflect on things in life and discover their real meaning? How

would we see these practices as always tied to knowledge systems? How could this orientation help make the ethical a central and spoken dimension in the designing learning environments? How could this view reshape pedagogical practice to discourses of the ontological and axiological—instead of primarily the epistemological? Hall et al's, as well as Kelton & Ma's pieces show how reimagined ways of creating learning environments that take currently valued disciplinary contents (e.g., history and math) relations to learning on the move can cultivate learning as “being in places with purpose” (Hall et al. 2020) and also contribute to more caring forms of learning and relations in learning environments.

This special issues brings new insights and tools to how we as educators and scholars, need to reimage our spatial arrangements and pedagogical practices reflective of learning on the move. And further, as analysts we need to animate and reanimate data and narrative toward the purpose of creating just, sustainable, and culturally thriving worlds. Learning on the move may be critical to not only recovering the bodies of learning (Stevens, 2012) but also in transforming the geopolitics and body politics of knowledge. Learning on the move asks us all to see anew—to see spatial diasporas and mobilities, our daily lives and learning—are always intimately intertwined with power and historicity. As Marin's work has shown us the ambulatory sequences and relational construals of adults with children and the land consequentially shape how we know. Our spatial arrangements and mobilities shape the epistemic and ontological grounds we make available to young people, and they feel the axiologies from whence these arise. Importantly, we must always recognize that young people also creatively reimagine landscapes and forms of movement. Indeed, young peoples' dexterities to move in and across spaces to engage in the forms of place making they desire—despite the regulatory nature of the world as it has been, is remarkable and reflects generative tension. As we move into new worlds where we make decisions about the future of learning and new social possibilities, I hope we continue to find new intergenerational configurations from new affective places that embolden our dreaming of our socio-ecological relations.

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## References

- Archibald, J. A. (2008). *Indigenous storywork: Educating the heart, mind, body, and spirit*. UBC press.
- Brayboy, B. M. J. (2005). Toward a tribal critical race theory in education. *The Urban Review*, 37(5), 425–446. doi:10.1007/s11256-005-0018-y
- Deloria, Jr, V. (1973). *God is red: A native view of religion*. Golden, CO: Fulcrum Publishing.
- Deloria, Jr, V. (1999[1977]). Native American spirituality. In V. Deloria Jr., (Ed.), *For this land: Writings on religion in America* (pp. 130–134). New York: Routledge.
- Deloria, Jr, V. (1999e[1991]). Reflection and Revelation: Knowing Land, Places, and Ourselves. In V. Deloria Jr., (Ed.), *For this land: Writings on religion in America* (pp. 250–260). New York: Routledge.
- Deloria, V. (1979). *The metaphysics of modern existence*. New York: Harper & Row.
- Deloria, V. (1995). *Red Earth, White Lies: Native Americans and the myth of the scientific fact*. New York: Scribner.
- Escobar, A. (2020). *Pluriversal politics: The real and the possible*. Durham: Duke University Press.
- Frost, R. H. (1990). The Pueblo Indian smallpox epidemic in New Mexico, 1898–1899. *Bulletin of the History of Medicine*, 64(3), 417–445. doi:10.1353/bhm.2002.0125
- Fryberg, S. A., & Bang, M. (2018). *Blaming parents of color for their own oppression is an American pastime*. *Education Week*. Retrieved January, 23, 2019.
- Grosfoguel, R. (2013). The structure of knowledge in westernized universities: Epistemic racism/sexism and the four genocides/epistemicides of the long 16th century. *Human Architecture: Journal of the Sociology of Self-Knowledge*, 11(1), 8.
- Gutiérrez, K. D., Higgs, J., Lizárraga, J. R., & Rivero, E. (2019). Learning as movement in social design-based experiments: Play as a leading activity. *Human Development*, 62(1–2), 66–82. doi:10.1159/000496239

- Gutiérrez, K. D., & Jurow, A. S. (2016). Social design experiments: Toward equity by design. *Journal of the Learning Sciences*, 25(4), 565–598. doi:10.1080/10508406.2016.1204548
- Hall, R., Shapiro, B. R., Hostetler, A., Lubbock, H., Owens, D., Daw, C., & Fisher, D. (2020). Here-and-then: Learning by making places with digital spatial story lines. *Cognition and Instruction*, 1–26.
- Jurow, A. S., & Shea, M. (2015). Learning in equity-oriented scale-making projects. *Journal of the Learning Sciences*, 24(2), 286–307. doi:10.1080/10508406.2015.1004677
- Kelton, M. L., & Ma, J. Y. (2020). Assembling a torus: Family mobilities in an immersive mathematics exhibition. *Cognition and Instruction*, 1–30.
- Kimmerer, R. W. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teachings of plants*. Minneapolis: Milkweed Editions.
- Lee, C. D. (2001). Is October Brown Chinese? A cultural modeling activity system for underachieving students. *American Educational Research Journal*, 38(1), 97–141. doi:10.3102/00028312038001097
- Lee, C. D. (2007). *Culture, literacy, & learning: Taking bloom in the midst of the whirlwind*. New York: Teachers College Press.
- Marin, A. M. (2020). Ambulatory sequences: Ecologies of learning by attending and observing on the move. *Cognition and Instruction*, 1–37.
- Massey, D. (2004). Geographies of responsibility. *Geografiska Annaler: Series B, Human Geography*, 86(1), 5–18. doi:10.1111/j.0435-3684.2004.00150.x
- Mignolo, W. D. (2007). Delinking: The rhetoric of modernity, the logic of coloniality and the grammar of de-coloniality. *Cultural Studies*, 21(2–3), 449–514. doi:10.1080/09502380601162647
- Mignolo, W. D. (2012). *Local histories/global designs: Coloniality, subaltern knowledges, and border thinking*. Princeton, NJ: Princeton University Press.
- Mignolo, W. D. (2018). On pluriversality and multipolar world order: Decoloniality after decolonization; dewesternization after the cold war. In B. Reiter (Ed.), *Constructing the Pluriverse: The geopolitics of knowledge* (pp. 90–116). Durham, NC: Duke University Press.
- Million, D. (2009). Felt theory: An Indigenous feminist approach to affect and history. *Wicazo Sa Review*, 24(2), 53–76.
- Richardson, T. A. (2007). Vine Deloria Jr. as a philosopher of education: An essay of remembrance. *Anthropology & Education Quarterly*, 38(3), 221–230. doi:10.1525/aeq.2007.38.3.221
- Rosebery, A. S., Ogonowski, M., DiSchino, M., & Warren, B. (2010). “The coat traps all your body heat”: Heterogeneity as fundamental to learning. *Journal of the Learning Sciences*, 19(3), 322–357. doi:10.1080/10508406.2010.491752
- Stevens, R. (2012). The missing bodies of mathematical thinking and learning have been found. *Journal of the Learning Sciences*, 21(2), 337–346. doi:10.1080/10508406.2011.614326
- Taylor, K. H. (2017). Learning along lines: Locative literacies for reading and writing the city. *Journal of the Learning Sciences*, 26(4), 533–574.
- Taylor, K. H. (2018). The role of public education in place-re making: From a retrospective walk through my hometown to a call to action. *Cognition and Instruction*, 36(3), 188–198. doi:10.1080/07370008.2018.1460844
- Taylor, K. H. (2020). Resuscitating (and Refusing) Cartesian representations of daily life: When mobile and grid epistemologies of the city meet. *Cognition and Instruction*, 1–20.
- Tuck, E., & Yang, K. W. (2012). Decolonization is not a metaphor. *Decolonization: Indigeneity, Education & Society*, 1(1), 1.
- Vossoughi, S. (2014). Social analytic artifacts made concrete: A study of learning and political education. *Mind, Culture, and Activity*, 21(4), 353–373. doi:10.1080/10749039.2014.951899
- Warren, B., Vossoughi, S., Bang, M., Taylor, E., & Rosebery, A. (2020). Epistemic heterogeneity and disciplinary learning to appear. In N. S. Nasir, C. D. Lee, & R. Pea (Eds.), *Handbook of the cultural foundations of learning*. New York: Routledge Press.
- Whyte, K. P. (2013). Justice forward: Tribes, climate adaptation and responsibility. In J. Koppel Maldonado, R. E. Pandya, & B. J. Colombi (Eds.), *Climate change and Indigenous peoples in the United States* (pp. 9–22). Cham: Springer.
- Wynter, S. (2003). Unsettling the coloniality of being/power/truth/freedom: Towards the human, after man, its overrepresentation—An argument. *CR: The New Centennial Review*, 3(3), 257–337. doi:10.1353/ncr.2004.0015