Lange, Elizabeth A.

Composting modernity. Pedagogical practices for emplacing ourselves within the living world

European journal for Research on the Education and Learning of Adults 15 (2024) 3, S. 239-259

European Journal for Research on the Education and Learning of Adults, Vol. 15 No. 3, 2024, pp. 239-259

Composting modernity: Pedagogical practices for emplacing ourselves within the living world

Elizabeth A Lange
Athabasca University and Institute of Sustainable Futures, University of Technology Sydney, Australia (info@elizabethlange.ca)

Abstract

We have reached the logical end of modernity as it lays waste to the natural world, discards people, and reveals its inherent and thus continual violence. Withdrawing our energy from and breaking down the constellation of modern beliefs, we can repattern ourselves and our communities for a life-giving future. In its structure and content, this article demonstrates a relationality approach to sustainability and climate education that undertakes practices to emplace humans back within the living world. Indigenous philosophies of place as well as posthumanism offer relational notions of time, space, place, and land to consider. Pedagogy-rich, the article provides practices for: restoring the history of modernity as a decolonial counternarrative; composting the most problematic beliefs and practices of modernity; providing tracings of and for possible futures; deriving pedagogical entry points of relevance to learners; and nurturing ways of being that can build a rooted, more life-giving way of being.

Keywords: relationality, emplacing/emplacement, kinship practices, composting modernity

Introduction

We have reached the logical end of modernity as it lays waste to the natural world, discards people, and reveals its inherent and thus continual violence. Withdrawing our energy from and breaking down the constellation of modern beliefs, we can repattern ourselves and our communities for a life-giving future. As many old stories are losing their hold, new stories are emerging including the new story of relationality. It can assist by repatterning our view of reality, our ethical and energetic integration in the web of life, and therefore emplacing humans back into the living world.

ISSN 2000-7426

http://doi.org/10.3384/rela.2000-7426.5214
www.rela.ep.liu.se

As Vanessa Machado de Oliveira (2021) describes, ‘modernity is a single story of progress, development, human evolution, and civilization that is omnipresent’ (p. xxi). It is hard to imagine beyond, despite our existential angst. Within modernity, capitalism has been growth-oriented and yet crisis-prone, using geographic expansion to address its cyclical crises, or what David Harvey (1996) calls its ‘spatial fix’ (p. 295). As it moves, colonial and now late neocolonial capitalism reconfigures space, time, and place, producing what philosopher Whitehead calls ‘”permanences” – relatively stable configurations of matter and things’ (Harvey, 1996, p. 55). Our world of these permanences, including institutions, socio-cultural relations, and economic practices as well as physical and biological attributes, is a taken-for-granted prospect. They ‘occupy a piece of space in an exclusive way (for a time) and thereby define a place – their place – (for a time). The process of place formation is a process of carving out “permanences” from the flow of processes creating spaces’ (Harvey, 1996, p. 261).

Though modernism appears solid and permanent, it is reaching its logical end and, as de Oliveira says, requires a letting go. ‘What if’ we imagined and practiced our relations to space, time, and place differently? Would this open up more possibilities? This paper moves out of a relational and dialectical conception of space, time, and environment that is common among many nonwestern knowledge systems as well as deeper understandings of premodern ways of knowing (Harvey, 1996). I wish to demonstrate a relationality way of being that can inform the pedagogical entry points and learning engagements of educators, whether in formal classrooms or communities. Relationality here is a philosophical approach that understands that entities, time and space only exist in relation, rather than independently as Newton proposed. It is the relations ‘between’ that define entities, time, space, and place.

Relationality practices can help us move past the instrumentalist thinking which often unknowingly shapes our pedagogical practices, even in sustainability and especially climate education with our deadline anxieties. Relationality practices, often related through story, can assist in sinking deeper into our places and becoming kin, profiling the losses, alienations, and superficialities of the Modern era. A relationality ontology can help us compost the aspects of modernity that feed the dynamics threatening all life on Earth. Through composting, we allow for aspects of these permanences to breakdown and recycle them into new potentialities that can constitute breakthrough, as in the emergence model of social change. Composting can also provide renewed soil ready to receive the tender seeds of a life-giving way of being.

This article is to be read experientially. Throughout the article, I engage in storytelling of my embedded, embodied, and emplaced relational practices while reflecting on meanings of place. Following the decolonial teachings of my Indigenous teachers, I begin with a gratitude practice then a practice of naming our place and kin as a contrary stance to the modern world. It is an understanding that all our relations keep us alive and define us. Naming our historical moment and our Great Work as educators and learners within this moment is vital for positioning ourselves in time and space. I then counterpose the narrative of modernity and its historical development as our old story, with relationality as an emerging story. To aid the process of letting go and transitioning, reflections on the alchemy of composting, specifically composting modernity, will challenge conventional notions of social change. I summarize these practices and reflections as pedagogical practices that can emplace us back into our living relations. In sum, the article offers a bottom-up practice that can rebuild a sense of place and reinscribe the notion of limits, to counter the conditioning of modernity.

A gratitude practice

On this day, as most days, I give thanks to the four elements that keep us all alive: Earth, Water, Air, and Fire. Each element refers in part to the networked systems of Earth – the biosphere, the hydrosphere, the atmosphere, and the geosphere – as well as the systems and elements of the cosmos. Each element, personified here, works with the others to permit life on this planet.

I give thanks to *Sun*, as He climbs higher in the sky and gains warmth every day, heralding the onset of spring and a new growing season here in the Northern Hemisphere. His *Fire* enables all life on Earth to survive.

I give thanks to *Moon*, as She watches over the movement of *Water*, in the oceans which have been the mysterious womb from which all life has come, the movement of water in plants and growth in the dark, and in our bodies. I thank all the fresh-water holders – the creeks, lakes, rivers, and wetlands – who like veins and arteries of Mother Earth share fresh water with all of us who require this living substance.

I give thanks to *Earth*, as She has always provided a home with specific places for us and many other beings to live out our lives. The intricacy of all Earth systems and the web of life with its vitality, abundance, and persistence helps keep us embodied human ones alive.

I give thanks to the four winds that create the constantly swirling weather systems that refresh the air, land, and water. The movement of *Air* is the energy that creates a dynamic balancing among all forces and elements.

All of us live under the same sky. All of us are bound together by these elements, the planets, and the web of life. May we dedicate what we do, today and every day, to Life[1] itself.

Naming our place and kin

> *We can no longer write or speak from nowhere to abstract audiences.*
> (Esteva & Prakash, 1998, p. 7)

I am Elizabeth A Lange. My life matrix includes my Eastern Germanic ancestors, their wanderings, and migrations to find a place that was not filled with violence, dispossession, and oppression. By the early 20th century just before the world wars, they left behind tragic memories but also their prosperous yet threatened farming communities. They found their way from Europe to what is now Canada and Treaty Six land, the traditional home of the Plains Cree, where the grassland plains and boreal forest converge into the Aspen Parkland, extending into the foothills of the Rocky Mountains.

Therefore, I *am* the water of the Columbia Icefields which descends from the glaciers onto the prairies, slaking my thirst, swelling our gardens, and cleansing me. I *am* the soils that feed me, fertile black loam, some of the finest in the world. I *am* the oxygen of the boreal forest and aspen parkland that inflates my lungs. This is not metaphorical, it is biological. The whispering of the aspen leaves in the wind, who also caresses the fields of grain and furiously drives the snow, vibrates my cells. For most of my life, I lived in the energetic vibrational field of the prairies, most often nuanced and understated.

I grew up in a small, flat city[2], but we visited my grandparents and other relatives 'on the farm' every weekend, where my grandparents originally settled. My Dad, who loved the land, taught me tree, bird and animal identification and behaviours, the crops our family grew including their indicators of health, as well as cloud formations for predicting weather. As a young child, our family engaged in regular gathering activities

like berry picking or fishing. We ate our produce and meat from what we or our relatives produced or garnered. In these ways, I came to understand the land that fed my people and the community values of their farming communities. I was held by a loving family as well as a cultural and religious community, providing a strong reference point for my sense of self and a place-based identity.

It has taken almost a lifetime to understand this gift, as well as to integrate progressively larger understandings of this place. I came to understand a continuity, that I come from a People, and despite moving, my Peoples have lived in similar ecological habitats. They were indigenous to the Northern European plain between two key rivers, moving to the Eastern European Plain, and then to the Canadian Plain. I understand now that we are Plains people. All these plains burgeoned with forests as well as grasslands, partly bounded by mountains and often threaded by a glacial river. The birds that greeted my ancestors each day, the stars which held their dreams and longings, the darkened silhouettes that comforted them each evening, the movements of the deer and other mammals that they relied on, the trees that sheltered and warmed them, the animal and plant cycles that oriented their seasonal activities, the songs and stories that held their relationship to place, all formed part of our identity.

So, my meaning of 'place' is one of deep habitation (Orr, 1992). Indigenous people say deep habitation can be ancestral, where the knowledge and consciousness arise locally and in association with the long-term occupancy of a place. Deep habitation can also come from growing deep roots – where one understands the geological history, can trace physical details from loving memory, witnesses the relative health over time, where one has an intimacy of connection to the beings there, a sense of personhood linked to that place, and where you bear the marks of that place on your body.

Thus, being 'em-placed' implies intimacy with a physical place. 'We are not only *in* places, but *of* them,' part of the web of kinship in a particular locale (Casey, 1996 as cited in Styres, 2019, p. 27). Although one can become emplaced over a lifetime, it is more often intergenerational – knowledge passed down but also memory that is carried in the blood or rather, DNA (Weber-Pillwax, 2021). One layered understanding of place, then, is as encultured and embodied, as part of dynamic relationing. As the New Science suggests, this relationing has an energy field that creates specific patterns of organizing which underlie what appears as objects, features, and beings in that field (Capra & Luisi, 2014).

Inherent in emplacement are the ethics of respect, reciprocity, and responsibility. As Karen Barad (2007) describes, ethico-onto-epistem-ology is the 'study of practices of knowing in being' appreciating the 'intertwining of ethics, knowing, and being' (p. 185). For instance, I always felt a sacredness in the land, partly from the reverence with which my grandparents regarded it, as they often suffered privation to make a life in relation to the land, and partly from the energy and old wisdom that was embedded in the Land and among the Indigenous peoples who had stewarded it for 12,000 years. I have been privileged to reside in this place, even as I struggle with my history as a settler and their reinscriptions of this space, and as I continue to seek out my older ancestral history on another continent.

I am even more deeply privileged by my Cree friends and scholars, in their generosity, who have been teaching me about the land, the plants, and their traditional practices and ceremonies which have honoured this place for millennia. In their Earth-honouring ways where they understand 'we are all related' (Cajete, 2000, p. 178), Land is the place that holds a People, including the bones of the ancestors, stories, and wisdom. Land is a Teacher, *if* we enter into respectful and receptive relations. Land, Country, or Territory is typically capitalized as it is understood as both sacred and a living entity that

constantly speaks (Styres, 2019). Yunkaporta (2019) summarizes that one, in part, needs to sink into 'Indigenous pattern-thinking, connective thinking' (p. 19) to emerge into 'a different way of being in space, place, and Land' (Lange, 2023, p. 378). In this way, they say, Land *claims us*. Land and kin are animate, responsive. Once part of us, this embodied relationing remains, however muted. Disrupting this relationing was the goal of colonisation, who inscribed place with their own categories and perceptions, attempting to erase place-based identities in favour of mobility, urbanisation, and cultural homogenization, forcibly if necessary.

Indigenous people say settlers came to the Americas wanting land. This is true of my people who were trying to escape feudal landholding relationships, religious war, and ethnic discrimination. They were implicated in the colonizing dynamics of clearing the plains of the buffalo and by extension Indigenous people, prior to their settlement (Daschuk, 2013). They believed the ideology of *terra nullius*, that the land was empty, 'empty space,' even though they had trade relationships with Indigenous people and witnessed the seasonal mobility of their habitation, a deliberate blindness given the fixity of a private property perspective. As much as possible, the plains had been deliberately *emptied* by the European colonizers for their reinscriptions. My ancestors were implicated by purchasing, fencing, clearing, and working land that was stolen through the legal machinations establishing private ownership. They were part of the degrading racism and blindness that attempted to legitimate this theft of not only land and lives, as genocide, but of knowledge, as epistemicide. So, although we came to love this land and grow roots here, this is the underlying nefarious history and pain embedded in this place which I face in every interaction with Indigenous friends and colleagues.

Yet, together as Indigenous and nonindigenous, we are decolonizing our minds and bodies while engaging in a national reconciliation process that acknowledges the violent colonial history that preceded us. Nevertheless, Indigenous people still live this violence every day. It is my responsibility to remember all this. It is my responsibility to try to understand who my own people were before they themselves were colonized by the Roman empire and Christianity. It is my task to be a Rememberer regarding both continents. It is my responsibility not only to remember and learn from the past but to also look forward, participating in creating a different way of being that revalues place-based habitation.

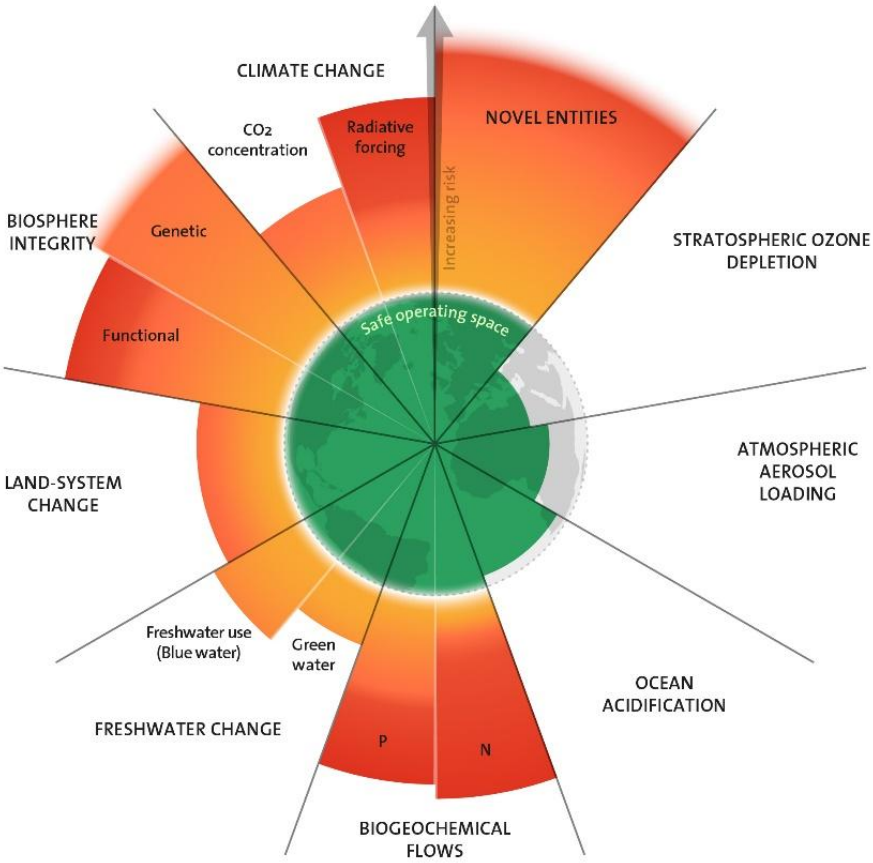
Naming our moment

Now, we are in the midst of a *Great Epochal Shift*, that is not only civilizational but geological. In this regard, Earth is our place, a single planetary system, an insight from Gaia theory.

We have resided for the past 10,000 years in the Holocene period, a geological period in which Earth's conditions have been unusually stable. However, human activities over the past thousand years, intensifying in the last several hundred years, are now pushing the planetary living systems outside their safe and stable operating zone into the zone of risk. Some consider this a transition to the Anthropocene Era where humans are changing the very composition and functioning of the planet (Folke, 2013). With the new update from the Stockholm Resilience Centre (2023) (see *Figure 1*), human activities have now pushed six of the nine living systems past the planetary boundaries into the zone of risk. The irony of our science capabilities is that we are detailing the slow and persistent degradation of the planet's systems before our eyes, the 'long emergency' (Kunstler, 2005).

Only one of these planetary boundaries is *climate change*, where global warming is at 1.18° above pre-industrial levels (National Oceanic and Atmospheric Administration, 2023), inching closer to the 1.5°. We already see the compounding and accelerated impacts, considered a Code Red alert for humanity (United Nations [UN], 2021; Intergovernmental Panel on Climate Change [IPCC], 2023b). Other boundaries include *biodiversity loss* where most species are declining at rates unprecedented in history (UN, 2019), now called the sixth extinction (Kolbert, 2014), which is the largest loss of life since the dinosaurs (United Nations Environment Programme [UNEP], 2022; 2023). This has occurred in part because of profound *land use changes*, mainly the conversion of wildland to agricultural use for feeding ever growing numbers of humans. Changes in *freshwater use* is now changing the very water cycle. *Biochemical flows* of nitrogen and phosphorous, mainly from fertilizers, have significantly polluted the Earth's air and water. *Ocean acidification*, mainly from the carbon absorbed by the ocean, is changing the very chemistry and temperature of the ocean, threatening the lives therein. *Aerosol particles* in the atmosphere are changing water cycles and cloud formation. One piece of good news about what concerted global action can accomplish is that *ozone depletion* has been reversed since the Montreal Protocol in 1987. Finally, the introduction of human made materials, *novel entities*, particularly plastics, are interfering with natural processes and adding to levels of pollution. In sum, given the modern way of life, particularly in the West but exported globally, eight billion of us have become a biophysical force that is changing the context of life on Earth (Crutzen & Stoermer, 2013).

Figure 1. The 2023 update to the Planetary boundaries. Source: *Azote for Stockholm Resilience Centre*, based on analysis in Richardson et al. (2023). CC BY-NC-ND 3.0



Our great work

Thus, this decade up to 2030 is considered a decisive decade (IPCC, 2023a). Together, climate change and biodiversity loss are the two critical and intersecting boundaries requiring significant global effort. For instance, the UN initiative known as 30X30 by 2030, aims to place 30% of both the planet's land and waters under protection by 2030 (UNEP, 2022). Reaching net zero carbon by 2040 is another initiative critical to planetary life (United Nations Climate Change Coalition, 2023). Such global initiatives are crucial for ameliorating the damages of overshooting these boundaries. These damages hit hardest the most vulnerable among us as intensification of fire, wind, and water events shrink areas of habitability and access to food and water, creating refugees from climate hot spots (United Nations High Commissioner on Refugees [UNHCR], 2023a; 2023b).

Educators are pivotal to reaching these shared goals to mitigate the worst impacts but also anticipating possible futures. Many educators are part of the global movement helping to build sustainable and regenerative cultures. Sustainability refers to the practices that can sustain Life indefinitely, by respecting, honouring, and cooperating within the processes of our living planet (Lange, 2023, p. 1). Regenerative cultures are those that 'put life at the centre of every action and decision' (Hawken, 2021, p. 9), especially prioritizing the living world over the desired profits and power of extractivist industrialism which simply removes 'resources' for export and processing while sacrificing the living world. Regenerative practices heals these severed relations between humans and between humans and the living world.

Undertaking this work as educators can be understood as our Great Work, defined by Thomas Berry as connecting our work to the fate of the human species as well as the history and dynamics of the Earth and the cosmos (Berry, 1999). We can dedicate our educational work toward healing from modernity while practicing hope, 'not avoiding grief, anxiety and rage' (Lange, 2023, p. 2) but taking certain actions because they are the right thing to do, regardless of how it turns out (Havel, 1991 as cited in Lange, 2023, p. 2): '[T]he planet will survive in some form – that *does* offer hope. Life is persistent'. We take certain actions as anticipatory of a world for which we hope. In this way, educators can be midwives for this Great Transformation, in the hopes that the possibilities for a more life-giving epoch will emerge more definitely.

The old story: Modernity as separation

At a deep level, modernity is separation. It has involved multiple separations: from the body, from emotion, from wisdom and creativity, from each other and skillful means to live as vibrant communities, from place, from the living world, from a creative and active cosmos, and from complex and nuanced understandings of place (Spretnak, 1999).

As David Orr (1992) explains, modern people are 'deplaced people for whom our immediate places are no longer sources of food, water, livelihood, energy, materials, friends, recreation, or sacred inspiration' (Orr, 1992, p. 126). We are 'nowhere people' who no longer know the 'art of dwelling' or 'living well in a place' (Orr, 1992, p. 130, 126). As part of this, Gruenewald[3] (2008) suggests that even place-based education is sometimes hesitant to link ecological themes with critical themes related to the oppressions and repressions of global capitalism. Yet, relationality approaches can integrate cultural decolonization with ecological re-inhabitation.

Many scholars now are engaged in a deep questioning of the fundamental assumptions that emerged over the development of the Wests and modernity, as follows.

- According to Riane Eisler (1987), the Indo-European horse-riding pastoralists and warrior nomads of the Eurasian steppe who idolized 'the lethal power of the blade' (Gimbutas, 1977 as cited in Eisler, 1987, p. xvii) overcame peaceful and prosperous cultures who worshipped a female Deity. From the 5th to 3rd centuries BCE (Eisler, 1987, p. 44), they brought with them violence, war and conquest, technologies of destruction, domination and authoritarianism, stratification and hierarchy, male Gods, male-rule/patriarchy, and the values of sacrifice and heroism into the culture of the West. This model Eisler calls 'the dominator model of social organization' (p. 45).
- The Classical empires of Greece, Rome, and the Holy Roman (Christian) empire solidified extensive militarism, invasion, conquering through subordination, imperialism, and human dominion over the living world.
- The early modernism of the Renaissance, building from classical thought, heralding rationalism, humanism, individualism, and dualism.
- The Scientific revolution brought a clockwork universe, the scientific method and desire for certainty and universality, a notion of freedom as release from the Earth's shackles, Earth as dead matter, universal and secular reason, and matter as ultimately reconstructible, all aspects of an extremely narrow and blind form of knowledge (Morin, 2008).
- The colonial era was the spread of violence and death through its: collision with and destruction of other worldviews and knowledges; the genocide, trafficking, and slavery of millions of people considered uncivilized or less than human; the rapacious use of labour, land, and resources; and the beginnings of ecocide through extinctions beginning in the 1700s (Ghosh, 2021; Pascoe, 2014).
- The Enlightenment then the French and American political revolutions bringing ideas of: representative democracy (first estate of clergy, second estate of nobility, third estate of the common people; and later the fourth estate of the press); private property; the nation-state as a social contract; republican democracy, parliamentary democracy, and constitutional monarchy with their governmental structures of checks and balances; political parties and ideologies; liberal human rights and the role of individual conscience; and social welfare states, all eclipsing the world of divine right monarchy, feudalism, religious obedience, and church delivery of social and educational services, to which some leaders now wish to return us.
- High modernism with the Industrial revolution then the Gilded Age, facilitating a capitalist economic revolution through new technology powered by water, coal, then oil and gas. It perpetuated: a machine view of life; industrial extractivism; social and economic progress through heightened productivity and profit; an socio-economic organization based on meritocracy and social mobility; the enclosure movement with ongoing worker displacements and need for labour mobility; waged jobs and the need for mass schooling; and social welfare to attenuate consequences for those who fall on hard times or with extenuating circumstances…all undergirded by the ideology of progress understood as the economic model of unlimited growth.
- Late modernism has been over a century of constant crises: including economic and financial boom and bust cycles as well as political ideological posturing, invasion, and war, with attempted amelioration through international development programs. Social movements expanded, including: worker's rights and the backlashes, civil rights and its backlashes, the broadening gender and sexuality spectrums and backlashes; the peace movement (anti-war and anti-

> nuclear) in the face of the military industrial complex and its need for war; and the coalescing of environmental and climate issues with backlashes; the contention against the 'Establishment' and its bureaucratic ponderance and consolidation of elite power. Neoliberal economic globalization and disaster capitalism followed, designed for additional profitmaking, continued to undermine these movements, now global in scope (Della Porta, 2007).

There is no denying that the modern era has brought increasing prosperity and technological advance, however it has been at the expense of natural world and the 'fourth world' who have consistently been regarded as the disposable ones (Stuchul et al., 2021). Taken to its logical end, modernity is inherently violent, including destroying the life base of the planet.

Many suggest that modernity is dying, having come to its logical end. Its perennial 'nowness' and promises for the future have been shown to be empty. Vanessa Machado de Oliveira[4] (2021) explains, 'Although modernity always sees itself and behaves as if "young," it has grown old and is facing its end' (p. xxii). De Oliveria describes modernity not as an 'object' or 'era' but a living entity with an energy that drives it. This energy drives our constellation of beliefs (progress, success, ownership, efficiency, autonomy, competition, power as control, comfort, order, achievement, affluence, consumption, busyness, entitlement). It revivifies modernity each day (see *Figure 2*). Modernity has deeply conditioned our thinking, values, understanding of the cosmos, our way of being in the world, and how we relate. It has penetrated our very cells, minds, bodies, and beliefs as well as our social organization and organization of our knowledge.

Figure 2. Separation Ideas. Source: (Lange, 2023)

Separation Ideas - Individual	Separation Ideas - Social
1. ownership/possession as wealth	11. progress/civilizing
2. success and achievement as "making it"	12. power as domination/ control
3. my personal good first	13. certainty/order/one truth
4. consumption/image/lifestyle = happiness	14. unlimited growth
5. competition/winning/being first, being best	15. affluence is desired standard of living
6. keeping up/anxiety of missing out/being uncool	16. rational mind is freedom/ reason as universal
7. I am entitled/deserving/ my rights/get what's mine	17. quick fixes/solution focus
8. constant doing/stay busy	18. individualism/ind. autonomy
9. being efficient/fastness	19. Learning as cognitive acquisition; head work
10. being the hero, saving the day	20. only some are deserving/ hierarchies

Only by withdrawing our energy from this constellation of separation ideas, both at the individual and collective levels, then breaking down these beliefs into usable components,

can we begin to repattern our way of thinking, our way of being as well as our communities and their practices for a life-giving future.

The alchemy of composting

This is a transition moment when we are between stories, between the old and the new which is yet unknown and unnamed, although we often see glimmers. As Bayo Akómoláfé (2022) asserts, we need to sit in this crack, fully inhabit this inbetween time. Not seeking fixes, solutions, or 'the new and improved' is part of the challenge of this time.

As de Oliveira (2021) explains, many will not yet be ready to leave the promises and comforts of modernity. Some will feel modernity has not yet fully evolved toward its promises or they still want access to its promises. Some will continue to push for reform or even radical transformation. She asserts we need to leave it behind, as part of our existential crisis. Although we will have this complex of voices within, breaking faith with modernity is the first step.

Composting is a biological and chemical process but also mythic process. Biologically, plant matter, food scraps, waste products, and other biodegradable materials are decomposed through specific physical and chemical conditions, requiring oxygen, water, and heat in the right amounts. Matter is metabolized through the bodies of organisms into primal elemental particles which are made available again as humus or soil, to support healthy plant growth.

As gardeners know, there are specific requirements for the composting process. There must be a balance between aeration and moisture and the compost pile must be big enough to create the heat needed to kill weed seeds and pathogens. It also requires billions of organisms, who we generally love to hate given our sanitization fetish, performing the digestion roles of consuming and digesting rotting materials, then excreting them as soil. The primary organisms are bacteria, fungi, snails, slugs, millipedes, mites, and nematodes. The secondary organisms are beetles, earwigs, springtails, sowbugs, centipedes, ants, flies, spiders, and worms. Many of these also perform a tertiary level of digestion before the compost is ready. Without these myriad small beings, we would be drowning in refuse.

Trash mounds or middens, the refuse of a culture, have been great delight to archeologists for their generation of knowledge about past cultures. However, in the mythic understandings of Traditional societies, decay is considered sacred and treated with great reverence. Often small shrines and temples were built by middens to offer gifts to the sacred spirits of Decay. Traditional cultures understood the vital importance of decay to the continuance of Life (Prechtel, 2012). Everything runs its course, dies, and is digested. Yet, this understanding of Life counters the modern understanding of continual linear progressive development, including the constant growth economic model. The magnitude of modern trash is testament to the loss of this teaching.

Composting modernity

Composting is a built-in revolution of ideas and practices, that can clear space for an emergence of possibilities. We may be in the early phases of a systemic collapse, with potential for breakdown or various pathways to breakthrough. Yet, this enables us to free up energy from business-as-usual and ready ourselves through a different way of being, thinking, and acting (Capra, 2024). During this time, the challenge is to sustain enough of the living systems to avoid total collapse.

The importance of compost is breaking material down into usable components, mainly energy and nutrients, thereby creating seeds for a future. The alchemy of composting regenerates the life process and feeds the next generation. Breaking down modern beliefs and practices, finding usable components and harnessing the energy, is also soil-building for a new culture. In this moment, we need to compost what no longer serves us – what is worn out, dead, broken, no longer relevant.

Interestingly, in many old cultures, people themselves were buried in mounds or deep in caves. This replicates the understanding of being placed in the stomach of the Earth who digests us into something new. So, just as we consumed during our lifetimes to live, so we must be consumed. This holds life and death in balance, rather than attempting to vanquish death as attempted by modernity. Death produces more life. If we are to experience emergence into a new era, some breakdown is necessary before breakthrough is reached (Capra, 2024).

Traditional peoples say that modern people are 'on the take' (Prechtel, 2012; Poirier, 2023). To stay alive individually and collectively, we must take from the living world. This is reality which cannot be ameliorated by veganism or any other practice to avoid killing. However, an ancient practice that responds to this necessity is to be cognizant at all times of our indebtedness to the living world, to kill honourably, and to offer our daily gratitude to the living beings and forces who keep us alive. As Poirier (2023) reminds us, 'Food is the child of all that died to make the seed and the soil that it grows in. To eat is to be re-membered by the food' (p. 198).

As moderns, we desire *acquisition* of practices without the hard learning. We feel an entitlement to 'be in the know,' demanding our teachers 'give me the answers' about meanings rather than exploring ourselves and coming to our own meanings. This is why many Indigenous people are wary of moderns. We have been conditioned to grab knowledge or goods and run, to grab the meanings and use it for our own ends. We tend not to give proper due, understand the layered, deeper meanings, or acknowledge knowledge as emplaced. We have lost a sense of limits, especially in science and technology, believing anything is possible and if we can do it, we should do it. We want knowledge and practices to be made convenient and the process expedient. We expect knowledge and knowing that are neat and tidy. Yet it is a lazy way of knowing, a process of entitlement, which stays at the most superficial level of learning. In a deeper understanding, we do not deserve anything; we are not owed anything. We are, however, a part of a much larger reality, requiring a process of re-membering.

These tendencies are deeply conditioned modern ways of being and one manifestation of the larger problem, parallel in the way our industries and institutions operate as well as how we undertake knowledge generation processes. This is why de Oliveira and Akómoláfé urge that we sit in the uncertainty, the unknowingness, the chaos of these times. Only by taking ourselves out of our comfort zones and normal processes, resisting our habitual responses and composting existing behaviours, while hearing the echoes of Traditional wisdom, will we begin to address the deepest dynamics threatening life on earth. Akómoláfé (n.d.) says, 'The times are urgent, let us slow down'. We must work with what is counterintuitive to the modern.

When we begin to ask respectfully, give gratitude for the myriad of gifts and love around us daily, when we take the time to ponder, when we sit in waiting to understand – Indigenous people have taught me – the learning shows up, sometimes in the most unexpected way. This may take years, in some cases. If you expect things to come your way, to be given things, then the learning turns away from you. If you place yourself back into the living world, with humbleness, reciprocity, carefulness, and respect, then different relationing begins to evolve.

An emerging story: Relationality as belonging

We see fleeting glimmers of a new story that is (re)emerging, not only from Indigenous cosmo-ontology, but from the New Science. Whereas Galileo and then Newton saw a clockwork universe of mechanical planetary movement, with stars and galaxies floating in black empty space, our old story, the Hubble and James Webb telescopes now illustrate the dense energetic webs that connects the stars and galaxies, changing the science story. With Einstein and other early atomic scientists, we understood reality to be comprised of atoms as the fundamental building block, but then it was found that particles can show up as either energy or matter, or both. Now, we see reality as a highly sensitive, finely woven web floating and constantly moving, through which vibrations of energy are constantly pulsing and transmitting information, impacting all things in the cosmos constantly. Basic reality is unbroken wholeness in flowing movement (Bohm, 1980). This is the science view of Relationality, leading us to a different view of reality and of social change (Spretnak, 2011; Thayer-Bacon, 2017).

We have studied the Earth in separate disciplines for centuries, following a reductionist process. Objects under the scholarly gaze were broken down into their component parts and the operation and functions of an organism or a physical reality, were explored. Now, however, in part through Gaia theory, we are beginning to see the Earth as a whole, seeing patterns and systems instead of component parts and functions. We have identified the biosphere, hydrosphere, atmosphere, and geosphere as networked systems, impacting each other synergistically. All these systems are self-organizing and self-regulating to maintain the optimal conditions for life to exist, a process of continual self-creation. The Earth herself is illustrating where she is healthy and ill and how we can once again cooperate within the natural rhythms and processes.

In the old story, humans are self contained in their bodies and minds. In the resulting individualism, we understand each as pursuing their own good, their own freedoms, their own entitlements, responsible only to themselves and their conscience. Although this sense of individualism, its self-truth and its rigorous morality, was originally subsumed within the notion of an embedded social responsibility, it has become trivialized and vulgarized into self-fulfillment and even narcissistic self-absorption (Taylor, 1989, 1991). However, the new story is that we are Nested-I's (Bollier & Helfrich, 2019) or communal individuals (Gould, 1978) who are profoundly related to all that is around us. Our body boundaries are perforated as mineral and chemical elements and the energy web flow in and out of our bodies. We are made of the same elements as the universe. Our body is a living system, nested within a social system and Earth's living systems, throughout which energy travels.

In the old story, only humans learn. Animals, and those considered subhuman, do not have this capacity to learn, although behaviourism demonstrated limited learning capacity through reward and punishment processes. The new story is that every cell in every living being uses perception and cognition to maintain a state of health. Challenging the paradigm of materialism, de Quincey (2005) states, 'consciousness goes all the way down' (p. 21). Cognition IS the process of life. All of life learns. Many scientists now are demonstrating the sentience of plants, animals, and living systems such as forests as well as the responsiveness of water (Tompkins & Bird, 1973; Bekoff, 2002; Wohlleben, 2015; Emoto, 2004). Living systems are responsive and adapt to changing conditions. Over modernity, human learning has been restricted to our senses or to logic, marginalizing knowing from the body, emotion, intuition, perception, and other nonsensory capacities (de Quincey, 2005). Now, human learning can be a responsiveness to the intelligibility of the world around us.

Further, all living systems have energy fields. The energy field of forests and some of their various chemical compositions (Beresford-Kroeger, 2010) can be deeply healing, called by the Japanese, *shinrin-yoku* or forest bathing. Instead of an inert world, the world or worlding is process where things are in constant motion, pulsing with relation. The world is participative. Our hearts are the most powerful energy field in our body. We can activate these electromagnetic fields found in our places, around and in our bodies, and that which emerges from our hearts. Attunement to energy can occur in learning groups as well in ways that substantially enhance the learning process (Bache, 2008).

Finally, we have a new human story developing, in part from quantum physics that has shown that there is not just one truth but approximations. This includes recognizing that the diversity of world's spiritualities exist as the relationship between a people, a Land base, and the spirit world which exists in that place. Each group of people historically developed their own stories about the origin of the universe, the origin of humans, and the role of humans on Earth, often called the 'original instructions' (Nelson, 2008) through which spiritual teachers taught them how to live well and wisely. Although we may find personal meaning in a specific tradition, these spiritualities are all part of the larger human story, one truth among many. The old wisdom traditions carry this knowledge still and convey it through story, music, poetry, and art, pathways toward manifesting higher human qualities. As scientists have found, the paradoxes of reality often necessitate the turn toward mythological, poetic, and spiritual language. In other words, many of the resources that we require in this historical moment already exist. In this new, very old story, we have taken a very long detour through separation to arrive back at the understanding that, we belong. We *are* related to all of life.

Finding pedagogical entry points

Despite intensifying global changes related to unsustainability, attracting adults to sustainability programs has always been a challenge. How do we reach and engage learners in this kind of learning? Approaching sustainability directly is often ineffective, in part given that sustainability is not necessarily well understood by the general public, nor does it have a sense of urgency. Although climate change has urgency, engaging learners in exploring realities such as climate change, even within the context of a course, can often provoke resistance or denial, echoing broader rhetoric.

Using conventional adult education theory, it is vital to find relevant pedagogical entry points that appear to solve a pressing problem or meet an immediate need. Carrying out a formal or informal conversational or digital survey of learner needs can reveal entry points. These entry points can be either the unique lived challenges in a city or region or the questions and concerns that are uppermost in potential learner minds. Shor (1992) calls this problem-posing through *generative* issues 'found in the unsettled intersections of personal life and society' (p. 55). In this way the topics are generated through variously derived learner voices. The other two forms of problem-posing are through *topical* themes that ask an intriguing social question of current importance, or *academic* themes that ask an intriguing question from the course content and the body of knowledge from which it emerges. In all cases, the task is to build a mutual curriculum which illustrates responsiveness and relevance. Typically, once a constellation of concerns is identified for a group of learners, a pedagogy can develop from these starting points slowly connecting sustainability or climate change content as part of the fruitful responses to these felt issues and questions.

Some of these starting points are best revealed by asking seven different questions. The first two questions are about key *life challenges* and *pressing concerns* for potential

learners, which may be anything from stress, rising cost of living, access to food and water, balancing family and work, lack of good jobs, or anxiety about the state of the world. This can be identified through pre-workshop surveys or classroom activities such as collage images which portray the felt impact. Dialogue can assist in naming what is felt – from the modern condition of overwhelmingness, ethical incongruence, duelling social priorities, and inner competing principles. Later, a political economic analysis can help learners understand that some of these challenges have been deliberately created, according to a specific ideology with its philosophical underpinnings, for money and power benefitting a few.

Asking what learners *most want* can help identify underlying common values and visions from which a productive dialogue can be structured, establishing a respectful environment for the spectrum of perspectives that exist in a classroom. Asking what they *most fear* helps to identify motivators and losses. Fear can also help identify what might be creating nonengagement in sustainability actions, but asking about other *barriers to action* is vital. Two other key areas for questioning are *basic knowledge* and *basic attitudes* related to sustainability and climate change. Aided by this information, appropriate content, visuals, stories, and resources can be found. Further, while the goal may be building understandings and practices for a sustainable *community,* in an individualist society, this approach can more effectively begin with *individual* felt needs then laddering toward a sense of the 'communal I' and an 'expansive self,' when responsibility for both human and nonhuman communities emerges as a natural response (Lange & Houlden, in press).

Practices for midwifing transformation

> In this time of ever intensifying crises, activism alone with not save us. Change will only take hold when we re-member ourselves into a shape that Earth can recognize as her own. The powers that are marching us toward the edge are endemic. They live in us too, binding us in the spell of amnesia and pulling us toward the indulgences that define the modern way of life (Poirier, 2023, p. 203).

Through the structure of the article, I have tried to demonstrate a relationality approach to composting modernity and emplacing ourselves within the living world. This included a gratitude practice, an embodied explanation of naming my place, and some of my kinship relations. I then moved the lens outward to name our moment of epochal shift and the Great Work of educators. A retelling of human history through the lens of the old separation story and an emerging relationality story, sets the context for the alchemy of composting modernity as social change work. Seven questions for identifying pedagogical entry points were offered, providing the groundwork for learner engagement. The final offering is a summary of relationality practices that can build a life-giving way of being.

Gratitude practices

Inserting each learner engagement with a gratitude or thanksgiving practice is important for building a sense of a Nested-I as well as composting entitlement ways of being that do not recognize indebtedness to the living world. Encouraging learners to follow the sun cycles over a year, the moon cycles over a month, seasonal changes, appreciate the life forms and elements that one relates to, or acknowledge the four directions helps to emplace learners in the cosmic turnings and the kinship of the living world. Encouraging

learners to adopt one ritual practice of offering a gift for the first of the day, the first of your food, the first of your water, or other daily activities is a reminder of all that grants life. It fosters a stance of receptiveness.

Embodied practices

We are complex beings with multiple bodies, including an emotion body, physical body, and an energy body. Relearning sensory knowing builds self awareness, fosters a keen sense of being embodied, and develops other-than-cognitive learning. Breathwork, bodywork, and energywork can reconnect atrophied learning pathways.

Breathwork is not only pivotal to health awareness, stress reduction, mindfulness training, and trauma therapy (Brown & Gerbarg, 2012), but is one simple way to open learners for receptivity to learning, for developing the witness self that observes self and others (Marti & Sala, 2006), and for feeling relationality[5]. We can develop different forms of breathing for different contexts and 'awaken from our typical hypnotic state of survival awareness and its fearful compulsions' (Sardello, 2010, p. xi). We can understand our own breathing as echoing and synchronizing with the breathing of the ocean and the land, as well as our reliance on the breath of forests. Breathwork can also take us into different states of consciousness.

Bodywork is vital as the conduit for experiencing the world and attuning to the sensation of having a body, especially the gift of embodiment. Attention and concentration exercises help counter the fragmentation of the digital and work world or can act as energizers. Through a body scan, one can attune to their current physical state or attune to their heartbeat as the pulse of life. Understanding and attuning to one's body teaches attunement to the living world (Marti & Sala, 2006). Moving differently means we can self-organize ourselves in different ways. Embodiment practices can also be a form of micro-activism, as micro-resistance to the messaging and demands of modernity as well as racialized, gendered and other structural aspects of violence (Agyeman, 2013). Finally, movement can attune learners to the sense of flow, to learning as process.

Energywork is important for learners to align with their energybody which circulates within as well as 'embraces' one's body (Pearce, 2010). Attending to electromagnetic fields within our body can assist us in identifying energy flow and barriers to energy flow which can lead to illness. Emotional turmoil is an imbalance that creates an incoherent energy field, which others can feel. We can also identify social places of incoherence and coherence, places that are not healthy and places that are healthy with a synchronizing of wave frequencies yielding optimal health and clarity. Transforming energy in the space between can reorient us, remind us that life is inherently regenerative.

Heartwork, which attends to the heart-mind matrix evident through neurocardiology (Pearce, 2010), widens the perceptual capacities as well as widens the range of emotion: slowing down impulsive, defensive reactions and using compassion energy more frequently. Asking learners to constantly widen their circles of compassion within a meditative context can foster relationality (Cornell, 1987).

We can also learn to '"presence" an emerging whole' or rather to 'act in the service of what is emerging so that new intuitions and insights create new realities' (Senge et al., 2004, p. 12; see Gunnlaugson, 2020). Although it appears an inward journey, it is 'tapping into the continually unfolding "dynamism" of the universe' (Senge et al., 2004, p. 12).
Finally, engaging learners in becoming 'makers' echoes Traditional learning, often occurring while the hands were busy. Engaging learners with clay, gardening, weaving, ropemaking, basketry, leatherwork, or healing herbs are just some of the manifold ways

that we connect with the materials of the Earth that have previously met human needs, while activating several modalities of learning simultaneously (Prechtel, 2012).

Kinship practices for emplacement

Understanding our emplacement can be encouraged by inviting learners to develop a Kinship Map for the place where they have felt most connected[3]. I typically ask learners to draw a map of key landforms, major water bodies, and label the bioregional name for this place. I ask them to mark their home and other familiar and special places. I ask them to draw the origin of their drinking water, the main regional foodstuffs, and key industries. They can also draw familiar birds, trees, and plants. Gathering learners into dialogue, I ask them to introduce themselves by their kin relations, as I did in the opening of this article. They can then discuss how this fosters a shift in perception of self and others.

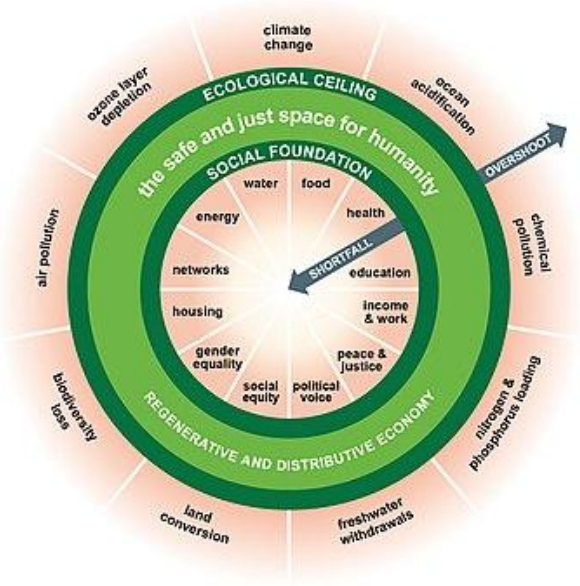
Another kinship practice is finding a 'sit spot' in a natural place, preferably wildish (Young et al., 2016). I ask them to sit still for 20-40 minutes, at least twice, which can be difficult given a scattered, active world. They are advised to notice everything, using all their senses. Using a different perceptual channel, I suggest letting themselves be befriended, to be taught by the Land or other species. When they return, we discuss the resistance or difficulty they felt in doing a sit spot, as insights into the body and mind patterning of modernity. Typically, the more resistance we feel, the more we are conditioned by modernity. However, sitting helps to dislodge the bodily patterning of doing and distraction, a composting practice. We then discuss their outer observations from various senses and then any events that may have occurred in response to their presence. We consider the languages and intelligibility of the natural world and other ways of knowing this world. Regularly continuing the sit spot activity in one's life dislodges feelings of 'being apart from' the living world to feeling 'a part of,' a belonging to the living world. In sum, different sensory input can change our neural patterning and thereby our perceptions which can transform our beliefs and behaviours in relation to the living world (Young et al., 2016).

Ecological literacy and the principles of life

Fritjof Capra and David Orr define ecological literacy as teaching the key principles of life which provides a basic comprehension of ecology (see Lange, 2023, p. 276) and how the living world is the 'matrix for all design' (Capra, n.d.; Orr, 1992, p. 33). Fostering curiosity, wonder, and humility through the study of living world dynamics moves from perceptions of a static world to a participative and cooperative one. It can return adults to the experience of childhood with a more sensory, embodied, and intuitive form of knowing. It assists in understanding our bioregion, the keystone species there, and their habits and purposes. The most important aspect of ecological literacy is the discovery that the Wild is what keeps the world alive and vibrant (Prechtel, 2012).

Introducing the nine planetary boundaries and then doughnut economics by Kate Raworth (2017) provides principles upon which to rethink the operation of all our human practices. All human activities should aim to stay within the safe operating space – between the social foundation that provides the basics for all humans and the ecological ceiling that ensures we do not overshoot the planetary boundaries.

Figure 3. Doughnut of Social and Planetary Boundaries. Source: (Raworth, 2017) Reprinted by permission. CC-BY-SA 4.0



Storytelling practices

Storytelling is an ancient form of teaching and learning. Yet, in the literalism of modernity, stories have been dismissed as child material. In old cultures, Big Stories typically have untold layers of meaning, accessing the great mysteries of life, that can be continually unpacked across a lifetime and the ages of listeners. Story has traditionally been considered an alive force, an energy that comes alive with the telling, with the ritual telling time selected carefully by the storyteller.

Stories are not only teaching devices but Teachers themselves, as a field of vibrational energy which engages listeners holistically. They were the original transformative container as it assists us in re-membering ourselves, illustrating the significance of the oral tradition for Indigenous peoples. Stories were told of a people's origin, their place and kin, stories about morality and conduct, and stories related to rituals such as initiations and birth and death (Lange, 2023).

Finding these stories once again, for one's own life, their family history, for their various peoples, and for their places of habitation is vital. Understanding that we are the stories we tell and then re-storying our personal and human history to assist in composting modernity is one task for this historical moment. These stories will eventually make violent and destructive behaviour more difficult to undertake in a transformed ethical environment.

Wisdom practices for midwifing transformation

Tewa Gregory Cajete understands education as 'breathing in life' or to 'be with life'. Humans are endlessly curious with a readiness for learning, which has often been wounded or dampened by schooling (Olson, 2009). Approaching sustainability and climate education from a wisdom-seeking perspective that engages these deeper levels of

being human is the spiritual facet of education. It is fostering awe, wonder, and respect for the living world around us.

Elements of wisdom, say Jeste and LaFee (2020), include all the foregoing elements, common across cultures and spiritualities, such as compassion and prosocial behaviour, the capacity for self-reflection, emotional regulation and conflict transformation, openness to divergent perspectives, and the ability to make sound decisions. These are relational skills that re-emplace us within the community of life.

Conclusion

In this historical moment, Escobar (2017) calls for a 'transition imagination' where we can sit in this moment thoughtfully, reflect on development of the West, compost the death-dealing aspects of modernity, attune to a life-giving relational way of being, while engaging in anticipatory designing of a pluriverse of cultures (Escobar, 2017) and futures, flourishing well and deeply in our places. As I demonstrated in my own storytelling, through educational practices that reimagine and re-emplace us, we dialectically and relationally surface and disrupt the deep conditioning of Western modernity and its inherent violence. We can sit together in the flow of energies and processes that are emergent of a different way of being.

Notes

[1] I am capitalizing words such as Life or Land, to refer to a larger principle, often enspirited, acknowledging this Indigenous way of understanding.

[2] My 94-year-old well-travelled educator aunt recently used this phrase, that Edmonton was no longer the small, flat city that it was, meaning that it had been a prairie city on flat land, but also without significant high rises and other imposing development elements.

[3] The author has since changed his name to David A. Greenwood.

[4] Vanessa Machado de Oliviera was previously surnamed Andreotti.

[5] See Elizabeth Lange at https://www.elizabethlange.ca/ for this and other teaching activities.

Declaration of conflicting interests

The author declares no potential conflicts of interest with respect to the research, authorship or publication of this article.

Acknowledgement

I wish to acknowledge that it was my honour to first present this text as a Workshop Series for PIMA's (Promoting, Interrogating, and Mobilizing Adult Learning and Education) Climate Justice Education Teach-In, September and October, 2023. It was entitled *Toward a Pluriverse of Possibilities: Unlearning Separation, Relearning Relationality*. *Workshop One*: Relearning Kinship Ethics; and *Workshop Two*: Composting Modernity. For a summary, see:

- https://www.pimanetwork.com/part1-teach-ins

To view the first workshop, see:

- https://www.youtube.com/watch?v=qxuleUU1pD0

- https://www.elizabethlange.ca/services

The co-hosts were:

- PIMA: https://www.pimanetwork.com/
- CASAE: https://www.casae-aceea.ca/
- ALA: https://ala.asn.au/
- MOJA: https://www.mojaafrica.net/en/
- SCUTREA: http://www.scutrea.ac.uk/

In particular, I wish to thank Shirley Walters, Dorothy Lucardie, Leslie Ann Cordie, Colette February, and Shauna Butterwick for their generous invitation, hosting, moderation, technology, publicity, and summary of this series, in addition to deep thanks to the attending participants.

References

Agyeman, J. (2013). *Just sustainabilities: Policy, planning, practice*. Zed Books.
Akómoláfé, B. (2022). We will dance with mountains: Into the cracks! Patreon: Slow Course, October 14. *Into the Wild: An Anthology of the Anthropocene* [Audio Podcasts]. https://forthewild.world/listen/slow-study-bayo-akomolafes-we-will-dance-with-mountains-into-the-cracks
Akómoláfé, B. (n.d.). *A slower urgency*. https://www.bayoakomolafe.net/post/a-slower-urgency
Bache, C. (2008). *The Living classroom: Teaching and collective consciousness*. SUNY.
Barad, K. (2007). *Meeting the universe halfway*. Duke University Press.
Bekoff, M. (2002). *Minding animals: Awareness, emotions, and heart*. Oxford University Press.
Beresford-Kroeger, D. (2010). *The global forest*. Viking.
Berry, T. (1999). *The great work: Our way into the future.* Bell Tower.
Bohm, D. (1980). *Wholeness and the implicate order*. Routledge.
Bollier, D. & Helfrich, S. (2019). *Free, fair, & alive: The Insurgent power of the commons.* New Society Publishers.
Brown, R. & Gerbarg, P. (2012). *The healing power of the breath.* Shambala.
Cajete, G. (2000). *Native science: Natural laws of interdependence.* Clear Light Publishers.
Capra, F. (2024, February). *Conversations on the Principles of Life* [Workshop]. https://www.capracourse.net/product/conversations-on-the-principles-of-life-october/
Capra, F., & Luisi, P.L. (2014). *The systems view of life.* Cambridge University Press.
Capra, F. (n.d.). *Principles of Ecology*. Center for Ecoliteracy. www.ecoliteracy.org
Casey, E. (1996). How to get from space to place in a fairly short stretch of time: Phemonenological prolegomena. In S. Feld & K. Basso (Eds.), *Sense of place* (pp. 13-52). School of American Research Press.
Cornell, J. (1987). *Listening to nature: How to deepen your awareness of nature*. Dawn Publications and Exley Publications.
Crutzen, P. J. & Stoermer E. F. (2013). 'The "Anthropocene"' (2000). In L. Robin, S. Sörlin & P. Warde (Eds.), *The Future of nature: Documents of global change* (pp. 479-490). Yale University Press. https://doi.org/10.12987/9780300188479-041
Daschuk, J. (2013). *Clearing the plains: Disease, politics of starvation, and the loss of aboriginal life*. University of Regina Press.
Della Porta, D. (2007). *The global justice movement: Cross-national and transnational perspectives*. Paradigm Publishers.
de Oliveira, V. (2021). *Hospicing modernity: Facing humanity's wrongs and the implications for social activism*. North Atlantic Books.
de Quincey, C. (2005). *Radical knowing*. Park Street Press.
Eisler, R. (1987). *The chalice and the blade: Our history, our future.* HarperOne.
Emoto, M. (2004). *The hidden messages of water*. Beyond Words Publishing, Inc.
Escobar, A. (2017). *Designs for the pluriverse*. Duke University Press.

Esteva, G., & Prakash, M. S. (1998). *Grassroots post-modernism: Remaking the soil of cultures*. Zed Books.
Folke, C. (2013). Respecting planetary boundaries and reconnecting to the biosphere. In World Watch Institute (Ed.), *Is Sustainability Possible?* (pp. 19-27). Island Press.
Ghosh, A. (2021). *The nutmeg's curse: Parables for a planet in crisis*. The University of Chicago Press.
Gimbutas, M. (1977). The first wave of Eurasian steppe pastoralists into Copper Age Europe. *The Journal of Indo-European Studies, 5*(Winter), 281.
Gould, C. (1978). *Marx's social ontology.* The MIT Press.
Gruenewald, D. A. (2008). The best of both worlds: a critical pedagogy of place. *Environmental Education Research*, *14*(3), 308-324. http://dx.doi.org/10.1080/13504620802193572
Gunnlaugson, O. (2020). *Dynamic presencing*. Trifoss Business Press.
Harvey, D. (1996). *Justice, nature & the geography of difference*. Blackwell Publishers Inc.
Havel, V. (1991). *Disturbing the Peace: Conversations with Karel Huizdala*. Vintage.
Hawken, P. (2021). *Regeneration: Ending the climate crisis in one generation*. Penguin Books.
Intergovernmental Panel on Climate Change [IPCC]. (2023a, March 20). *Urgent climate action can secure a liveable future for all*. IPCC Secretariat.
Intergovernmental Panel on Climate Change [IPCC]. (2023b). *AR6 synthesis report: Summary for policymakers, Headline statements*. IPCC Secretariat. https://www.ipcc.ch/report/ar6/syr
Jeste, D., & LaFee, S. (2020). *Wiser: The scientific roots of wisdom, compassion, and what makes us good.* Sounds True.
Lange, E. A. (2023). *Transformative Sustainability Education*. Earthscan Routledge.
Lange, E. A., & Houlden, S. (in press). The power of story, connectivity, and kinship: Overcoming barriers to sustainability and climate education. *Canadian Journal for the Study of Adult Education.*
Kolbert, E. (2014). *The sixth extinction: An unnatural history*. Picador.
Kunstler, J. H. (2005). *The long emergency*. Grove Press.
Marti, A., & Sala, J. (2006). *Awareness through the body*. Sri Aurobindo International Institute of Educational Research.
Morin, E. (2008). *On Complexity*. Hampton Press.
Nelson, M. (Ed.) (2008). *Original instructions: Indigenous teachings for a sustainable future*. Bear & Company.
National Oceanic and Atmospheric Administration. (2023). *Annual 2023 global climate report.* https://www.ncei.noaa.gov/access/monitoring/monthly-report/global
Olson, K. (2009). *Wounded by school*. Teachers College Press.
Orr, D. (1992). *Ecological literacy.* SUNY Press.
Pascoe, B. (2014). *Dark emu: Aboriginal Australia and the birth of agriculture*. Scribe Publications.
Pearce, J. C. (2010). *The heart-mind matrix: How the heart can teach the mind new ways to think*. Park Street Press.
Poirier, N. (2023). *In the world of flesh and bone: Uncovering the spiritual ways of Earth*. Amazon.
Prechtel, M. (2012). *The unlikely peace at Cuchumaquic*. North Atlantic Books.
Raworth, K. (2017). *Doughnut Economics*. Penguin Random House.
Richardson, K., Steffen, W., Lucht, W., Bendtsen, J., Cornell, S.E., Donges, J.F., Drüke, M., Fetzer, I., Bala, G., von Bloh, W., Feulner, G., Fiedler, S., Gerten, D., Gleeson, T., Hofmann, M., Huiskamp, W., Kummu, M., Mohan, C., Nogués-Bravo, D., Petri, S., Porkka, M., Rahmstorf, S., Schaphoff, S., Thonicke, K., Tobian, A., Virkki, V., Wang-Erlandsson, L., Weber, L., & Rockström, J. (2023). Earth beyond six of nine planetary boundaries. *Science Advances, 9*(37). https://doi.org/10.1126/sciadv.adh2458
Sardello, R. (2010). Foreword. In J. Chilton Pearce, *The Heart-Mind Matrix*. Park Street Press.
Senge, P., Scharmer, O., Jaworski, J., & Flowers, B. S. (2004). *Presence: Human purpose and the field of the future*. Crown Business.
Shor, I. (1992). *Empowering*. University of Chicago Press.
Spretnak, C. (1999). *The resurgence of the real*. Routledge.
Spretnak, C. (2011). *Relational reality*. Green Horizon Books.
Stockholm Resilience Centre. (2023). *Planetary boundaries.* https://www.stockholmresilience.org/research/planetary-boundaries.html
Stuchul, D., Prakash, M. S., & Esteva, G. (2021). From fear to hope: learning from BIPOC in hard times—Covid 19, climate collapse & racial violence. *International Journal of Lifelong Education, 40*(4), 415-426. https://doi.org/10.1080/02601370.2021.1936234

Styres, S. (2019). Literacies of the land: Decolonizing narratives, storying and literature. In L. Tuhiwai Smith, E. Tuck & K. Wayne Yang (Eds.), *Indigenous and decolonizing studies in education* (pp. 24-37). Routledge.
Taylor, C. (1989). *Sources of the self*. Harvard University Press.
Taylor, C. (1991). *The malaise of modernity*. House of Anansi Press.
Thayer-Bacon, B. (2017). *Relational ontologies*. Peter Lang.
Tompkins, P., & Bird, C. (1973). *The secret life of plants*. Harper.
United Nations [UN]. (2019, May 6). *UN Report: Nature's dangerous decline 'unprecedented': Species extinction rates 'accelerating'.* https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/
United Nations [UN]. (2021, August 9). *Guterres: The IPCC Report is a code red for humanity.* https://unric.org/en/guterres-the-ipcc-report-is-a-code-red-for-humanity
United Nations Environment Programme. (2022). *Kunming-Montreal Global Biodiversity Framework*. https://www.unep.org/resources/kunming-montreal-global-biodiversity-framework
United Nations Environment Programme. (2023). *Fast Facts – What is Biodiversity?* https://www.un.org/sustainabledevelopment/blog/2023/08/explainer-what-is-biodiversity/
United Nations High Commissioner on Refugees. (2023a). https://www.unhcr.org/climate-change-and-disasters.html
United Nations High Commissioner on Refugees. (2023b). *What we do:*
Climate change and displacement. https://www.unhcr.org/environment-disasters-and-climate-change.html
United Nations Climate Change Coalition. (2023). *For a livable climate: Net-zero commitments must be backed by credible action.* https://www.un.org/en/climatechange/net-zero-coalition
Weber-Pillwax, C. (2021). It's in the blood: Theory and praxis of lifelong Indigenous education. *International Journal of Lifelong Education*, *40*(4), 395-414. https://doi.org/10.1080/02601370.2021.1966528
Wohlleben, P. (2015). *The hidden life of trees.* Greystone Books.
Young, J., Haas, E., & McGown, E. (2016). *Coyote's guide to connecting with nature*. Owlink Media Corporation.
Yunkaporta, T. (2019). *Sand talk: How Indigenous thinking can save the world*. Text Publishing.