What next? Post-critical materialisms in environmental education

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Routledge
Taylor & Francis Group

CONCLUSION

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Morphology

The streams and currents of a braided river currently meandering through the politics of policy making *for* ESD are shaped by rocks lying on the marginal edges and other things lying within the river's sub-aquatic morphology. Put differently, the "critical reaction" assembled here serves as a "politics of the outside" (Johnson, 2015) that demands further navigation of the "edges" of the discourse presented in this SI. Like the contribution of a river's fluidity, flows, rapids, eddies, whirlpools, and snags to its morphology, the challenges of "what next?," "where to?" and "how?" *for* EE and EER suggest there are many braids of the river to cross and whose rising flood might be due to the supraglacial meltdown of planetary ice-sheets or, closer to home, gas in the coal seam leaking on the urban fringe or, even closer, our digestion of what we regularly eat. Contributors to the SI have partially navigated some of these undercurrents of the dilemmas and challenges for ESD.

The outside *of* this SI's critical response to the regular flow *for* ESD *also* draws inspiration from the currents of "high" theory in Western "thought" that, to a certain extent, are a belated philosophical response to the Anthropocene. "A strange name indeed" declared the speculative realist, Timothy Morton (2013, p. 5), because in this new geologic epoch "non-humans make decisive contact with humans". This new *movement of thought* concerns itself with ontology, and the status of the real and, subsequently, the epistemologies flowing from a "new" material vitalism about the way the world *is*, and how we are *in* it. In its various guises, this movement may well reveal the historical complicity of "old" Western Cartesian inert "thought" about what it thought truly and rationally *matter*ed, its presumptions, logics, and methods of reason (for example, Barad, 2007; Coole & Frost, 2010; Connolly, 2013; Latour, 2013; Shaviro, 2014). The advent of Anthropocene acts like a storm on thought; it changes what *really matters*. Again, to metaphorically push the philosophical/theoretical/conceptual thrust of this new morphology, "old" dominant Western thought about modernity and its surfaces of development might well reconstitute in ESD the "miseducative," following John Dewey, and, by implication, EE.

This high *turn* of *movements* in Western speculative theory to "an" *outside* of *thought* breathes new life into the intellectual resources now available to the policy-making processes in ESD. Not without concerted critique (for example, Wolfendale, 2014), such speculations raise basic questions about the underlying politics of how policies reflect and create certain assumptions about ontology, epistemology, and their tensions that then implicate more questions about methodology (i.e., how policy like ESD is "made"). This new movement of thought asserts a *re*turn to realist ontology(ies) and the interplay of materialist and symbolic epistemology(ies) that combine to create a different morphology of how the modern/industrial development of the Anthropocene and manifestations such as anthropogenic global warming melts the horizons of sustaining certain assumptions and understandings of Nature, Culture, and their now globalized relations. New thought of this materializing type "turn" moves with and against the excesses of the now well-established linguistic/discursive "turn" in (Western) thought. Its textualization of the "world" has greatly influenced much academic enterprise over the past three

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decades in, for example, the discourse of EE. This "new" morphology invokes both substantive and methodological deliberation, invariably of a deeply reflexive and normative type (Thorne, 2015) that has considerable relevance of a material type to the political question of, for example, policy making in ESD. So, in this undercurrent morphology of thought about the material and everyday prospects of reviving and revitalizing democracy through, for example, "flat" ontologies of objects named as the "deep" or "dark" outside (for example, Bryant, 2011, 2015), new theory (re)turns and revises or "updates," again, the politics of ontology~epistemology—methodology of "historical materialisms" (for example, Boscagli, 2014; Edwards, 2010). This ontological revitalization and epistemological reanimation of the (sustainable) relations of humans and nonhumans (for example, Grusin, 2015), and ecology of others (for example, Descola, 2013) is provoked through a less or "non" anthropocentric orientation/disposition in inquiry where, for example, a "radical materialism" of a political ecology of vibrant matter (Bennett, 2010) invites consideration of a very different praxis of EE and ESD, including policy-making assumptions and processes. In many respects, this current stream of thought is another braiding of the calls in EE from the 1980s for a "paradigm" shift in education and research, a point touched upon by Bob Jickling through Kuhn, and implicit to the other contributors assembled here. Undoubtedly, it is an exciting (theoretical) time for environmental educators and researchers.

In different ways, the contributors to this SI address elements of these turns, but do not necessarily "name" them as such, in the formal ways I have. And the collective "thought" of the SI about "what next?" converges loosely on the need for new intellectual resources, vocabularies and grammars. These resources, potentially, (re)inform decolonized and deterritorialized notions of human-environment interactions, agencies, relations, arrangements, and structures. Subsequently, they inform other framings/namings of research in relevant circumstances, contexts, and theory-building efforts responsive to, in this instance, an outside view of the sustainability of EE and ESD and their meanings and practices. William Connolly (2013) captures the broader mood well in his "ecology of late capitalism," where the processes of "planetary politics" and, in particular "*role experimentations*" in "*democratic activism*" neatly capture the currents and morphologies expressed here, and suggestions for a braided "what next?" Stefan's rejoinder touches upon the potential for a "constructive plurality" within critical EE to provide a means through which a politics of ontology~epistemology(~methodology) is, effectively, an interplay represented here through using the tilde (~).

All authors contributing to this SI were strongly encouraged to recommend how the conversation, or debate, about the critical legacies of EE and EER might be further engaged in ESD policy-making deliberations. The "what next?" of this "post-critical" transition in EE inquiries (for example, Hart, 2005) proceeded on the basis that contributors be "rigorously bold" in re-enlivening the otherwise tired conversation. "Rigorously bold" was enthusiastically embraced, after some initial arm twisting, by each author in revisiting and updating his or her previous contributions to the EE-ESD conversation via that individual's most recent research endeavor and activity, be it empirical, theoretical, and/or methodological. There are many recommendations in the SI for "what next?". They are too numerous and comprehensive to list here.

Thus, the readership is encouraged to actively engage with the various "what next?" recommendations. But, beyond/outside the focus in this SI on policy making in ESD, the recommendations also inform the broader concerns of this journal, *JEE*. More generally, the recommendations serve to "prime" a heightened normative reflexivity and critical theorization of; curriculum/programs as they are "developed," implemented, enacted, and evaluated in various contexts of educational praxis, such as teacher education, consultancies, and PhD mentorship and their relevant pedagogical issues and problems in their settings and circumstances, in naming just three among many opportunities for *praxis*.

Silence and absence

Not surprisingly, any Special Issue, or Handbook, or article, is constrained in what it can adequately "access," "correlate" to, "represent," and "legitimize" about the topic under investigation (Reid & Payne, 2013). Claims on knowledge, the "real" it represents, and the "truth" and "good" about the

anthropocentrically assumed and/or presumed *correlation* between human "thought" and "being" are always amenable to deconstruction. The "real" is far more expansive and extensive than human consciousness and its languages, following the various "turns" outlined previously (for example, Sparrow, 2014). And this problem of correlationism is further exacerbated when, as we are prone to do in environmental education, the non-anthropocentrism of "Nature," the nonhuman, more-than-human or other-than human and their "environments," are, invariably, inaccessible and affectively "non-representational," be they in policy, curriculum, pedagogical and research *makings*. To make matters of rational representation worse, there are those *within* critical theory who lament the demise of "criticism" and "critique" given, for example, the rise of political "affirmationism" and post-human "accelerationism" (Noys, 2010, 2014). EE and EER now find themselves in a precarious "post-critical" space. We do our best!

With these four "big" absences in mind, the astute reader of this SI will, no doubt, identify various other *aporetic* silences, gaps, or oversights in this text. At the risk of being overly propositional, given the big absences not well engaged so far in EE, ESD and EER, I identify some of the absences, non-presences, edges, margins, rocks, and "other" morphological invisibilities in this SI's "critical reaction." The aim here is to pragmatically build upon the authorship and contents of the SI and "flesh/flush out" some additional contours of the "where to?" and "how?" of a still evolving post-critical *program* of EE and ESD practices, research, deconstructive inquiry and reconstructive praxis. Drawing also from the current high theoretical *outside* to the *inside* of critical EE, I identify eight interrelated but layered *projects* whose partial or non-presence in the SI lies at the non-navigated edges of this critical foray into the politics of policy-making in ESD. One criticism that will be leveled at the SI is the rather abstract manner in which the conversation has been "representationally" carried out—as pages of a text. Nevertheless, the manner in which these following *project proposals* are "storied" encourages the combining of empirical study and theory building in the varying geo-cultural-historical-ecological epistemologies of EER and their "translocal" de/reconstructions of the "global." This more "material" encouragement remains historically attentive to the (meta) demands of a *critical program* for EE and EER outlined in my Introduction to the SI. This program incorporates empirical research, normatively reflexive inquiry, and, subsequently theoretical, even philosophical, critique (for example, James, 2006, whose meta methodology of inquiry into four constitutive layers of abstraction (and explanations of 'extended' socio-ecological relations is interpreted below within the morphologies of EE and EER).

And these non-exhaustive recommendations for "what next?" "where to?" and "how?" of such a critical program are not restricted to policy making but, more generally, the "politics" (and flux with aesthetics and ethics) of a wider range of effort in curriculum, pedagogy, evaluation, research, theory, history and philosophy of EE. Including the two other "big ticket" challenges of still colonizing framings of Eurocentric/Western modernity (and postmodernity) and stealth practices of neoliberalisms, some major absences and silences relevant to the decolonizing of globalizing policy-making endeavors include:

1. AGENCY—the notion of agency, in relation to discourses, structures, cultures, histories, and geographies has attracted considerable attention in this SI. Interest has been couched primarily in terms of a positive elaboration of the circumstances, conditions and contexts that enable or disable agency, individually and collectively, or give rise to dissensus, contestation, resistance, struggle against hegemony, governmentality, authority, sovereignty, and performativity. Agency—in its subjectivities and subjugations, however, works powerfully in many different ways that are often antithetical to the progressive assumptions, aspirations, expectations, and achievements of any discourse, in this instance critical EE. Agency, therefore, has a wide spectrum and scale of normative valences and power differentials that educators, researchers, and policy makers need to consider—conceptually and empirically. For example, the relatively unknown/undertheorized recent 'turn' to *affectivity* in "thought" highlights many human "somaesthetic" (for example, Shusterman, 2008) qualities of agency and action, such as emotion and feelings. Affectivity is real and can be found anywhere we might choose to "sense," such as in the emplaced role of environmental perception (Ingold, 2000) where affectivity of that human

type constitutes the equally undertheorized role in agency, action and nonaction of the *pre*-conscious, rational, discursive, "meaning-making" inherent in a "relational" or "ecological" ontology (as "non" constructivist ecological epistemology). The various "pre" of somatic "understandings" in questions about agency (or nonagency) are underresearched and undertheorized (Payne, 2013). Affectivity (and, more broadly, aesthetics) play a significant educative role, therefore, in how agents/actors/organizations and institutions "practice" agency, positively, negatively, ambivalently, in the always enigmatic everyday. The non-neutral concepts of agency and action, and how they are affectively (as well as cognitively and performatively) driven by myriad forces/ powers, resources, and structures, demand ongoing empirical scrutiny in the "processes" and anticipated agential relations of policy, curriculum, pedagogical makings.

2. AESTHETICS—Beyond the emergence of a somaesthetics in human movement and an ecological anthropology of experience (for example, Ingold, 2011) and understanding (for example, Johnson, 2008), there are many other intellectual resources in EE and ESD to actively experiment with in inquiry, and extend methodological deliberation—such as spatialized affectivity (Thrift, 2008), taste (Bourdieu, 1984), passions (Butler, 2015) and the politics of aesthetics (Ranciere, 2004). When incorporated ecologically into deliberations about the ethics and politics of EE and ESD, these resources extend into many related empirical concerns about how the sources of agency are constituted in, by way of another rarely considered "outside" example, spirituality, faith/religion, and belief systems/worldviews. Critical EE has been notoriously silent about the practical, material/theological, symbolic/ritualized, everyday role of religion (Grinter, 2012). Indeed, where does the affectivity of theology sit or fit in policy-making sensitivities when (non) secular, (multi)ethnic and many other related identity concerns are insufficiently problematized? For example, Pope Francis's 2015 "ecospiritual" encyclical letter *Laudato Si*—"On Care for our Common Home", will surprise many in EE and ESD for its "radical" agenda on this particular issue of environment and education. Key principles include, pollution/climate change; throwaway culture; the common good of climate, water and loss of biodiversity; global inequality and; breakdown of society. The "roots" of the "ecological crisis" identified in *Laudato Si* include technology, globalization of technocracy, and modern anthropocentrism. Francis calls for an interrelated set of ecologies—integral, cultural, daily life, and the promotion of a global common good forged through intergenerational justice. Highly pertinent to the concerns consistently raised in this SI, Francis calls for a "dialogue" for "new" national and local policies through which he proposes an "ecological education" and version of "ecospirituality" consistent with the "Catholic world" and the church's initial foray in 1971 into the "tragic consequences" of "environmental concerns."

3. ONTOLOGICAL-EPISTEMOLOGICAL—To be sure, numerous other ontological-epistemological belief and faith systems, traditions, norms, rituals, cosmologies, river/streams, land/sea/air "scapes," and worldviews exist around the world and exert significant historical-geo-cultural-epistemological influence on shaping and reshaping the perplexing questions of the affectivity and aesthetics of agency, and their porosities, sedimentations or saturations in policy making— be it local or global but, importantly, where global is not local. Indeed, when (eco/environmental) affectivity/aesthetics, and its politics, is incorporated conceptually and empirically into related questions of an (environmental) ethic and (eco)politic, and their respective politics, of, for example, policy-making in ESD we are all presented with a serious challenge of how best to reinterpret and *adequately* represent the everyday real and material in the assumptions we make in EE and ESD. Some framework of reflexive inquiry is, therefore, required that underpins and informs the various "what nexts?" outlined here. That vexing *triad of aesthetics, ethics, and politics* (where each might normally "check" the other for excess, or lack) is undergirded by the *triad of ontology-epistemology (and methodology)* and, if so, poses fascinating questions about how each element and current of the two triads acts as a check and balance on how formulations of EE and ESD, and their researches, might proceed in a normatively predisposed or oriented "critical ecological ontology" (ontology∼epistemology) for educational inquiry/critique

(∼methodology). The discursive and real/material "tensions" within each triad and across the two are my best guess of where differences within each of EE and ESD and across them are most likely to re-engage, re-animate, and re-vitalize conversations and debates about the prospects and pitfalls of EE and ESD. Moreover, in extending these largely absent "figures of reasoning" for the conversational purposes here, agency(ies) must also be broken down for how it is, and they are, embodied by subjects that also "work" intercorporeally and socioecologically according to the typical sociocultural variables of age, gender, family dynamics, physicality and ability, socioeconomic resources, and status/power, ethnicity, sexuality, urban/rural living, and so on. The braid is thick and heavy, and the morphology is turbulent. For (rare) outside example, again undertheorized children's agency in different family, schooling, social, geo-cultural, and socioecological contexts (or geo-epistemologies with underlying ontological categories) is under-researched when it comes to the research (and pedagogical, curriculum, policy) questions of what it "was," "is" or "entails" to *become* (critically) environmentally educated and "develop" circumstantially adequate or appropriate ways and forms of living "sustainably." And, absent from this SI, beyond inference only, is the equally vexing but compelling question for policy, program, curriculum, and pedagogical deliberation and "development" about what constitutes environmental and socioecological agencies in, for example, the "turn" to a possible less/non-anthropocentric, human-non human "figure of reasoning."

4. TECHNOLOGY, DIGITALIZATION, CONSUMPTION—these truly dominant postmodern 'practices' of the everyday of affluence have largely escaped theoretical and empirical scrutiny in the SI. Yet, the technocentrism of unbridled anthropocentrism in cultures of affluence is an increasingly dominant, perhaps hegemonic, instrumentalized means/mode, medium, and ends of policy-making. Missing is how the various 'down/uploading' governances of neoliberalism might universally/globally recur through the heavily abstracted "stealth" of techno-consumerism in the everyday of individual and collective agency/affectivity. This recommended project for EE and ESD also "turns" on the "new" theoretical interest in the "posthuman" and "transhuman." So far, these "post" versions of humanism (and humanities) have escaped critical interpretation or explanation *within* the discourse of EE. They need to be examined before each term becomes another convenient slogan/naming, or is mashed, with each other and conflated into the prospects of *being* human or, maybe, more-than-human, or, even, a version of education as *ecobecoming*. Otherwise, the rematerializing braided river and its morphology metaphor begins to evaporate into the consumer "cloud" of cyberspace (iGlobe, anyone?) and the hyperreal simulation (Baudrillard, 1981/1994). Or might be "contested/resisted/reconstructed" from the outside in a re-humanized environmental and socioecological education, as an imaginary of *ecobecoming*. Concerns about the abstracted, simulacra, intensified and individualized form of digital colonization/cognitive capitalism is particularly salient to postcolonial theory and decolonizing praxis in critical EE where "traditional" culture-nature relations are rapidly being detraditionalized, displaced, disembodied, decontextualized, retraditionalized, and abstractly reconstituted, simulated, and recontextualized in the "dromospherical" fast/accelerated war against time (and its natures), including in education (for example, Virilio, 2007/2010). "Non-place" (Auge, 1995) and "un-place" (Trigg, 2012) theory are materially/geographically relevant now in EER in an increasingly mobile/fluid/liquid global culture (Nakagawa & Payne, 2014). Our transnational critiques of policy making in ESD have been persistently silent on the matter (Payne, 2003/2006) of how digitalized colonialisms "mobilize" the existential "technics" (and *techne)* simulation of the lifeworld and its relations in which discourses, texts, images, and software are "designed" into the environment. To be sure, the (over)abstraction of policy-making processes in globalizing efforts of 'fast' education and "accelerated' sustainable development is part of the problem, as our contributors readily identify in this SI but not in the language/grammar just used.

5. OVERDEVELOPMENT—for the most part, contributors to this SI have focused on 'developing' contexts of policy, education, and research, in what we somewhat ignorantly or arrogantly refer to as the Global South. Attention is warranted about those cultures of affluence in the Global North

and their geo-epistemologies of (over)consumption about how development, environmental despo-liation, and socio-ecological "politics" are reconstituted, often abstractly/universally, and technocen-trically, as renormalized "ethics." Moreover, empirically driven critiques of such "greenwashing" agencies will be attentive to how these aesthetics~ethics~politics are differentiated and polarized within those cultures of varying affluence. It is remarkable that the term "conservation" has all but disappeared from the discourses of EE and ESD, mindful of the (Western) history of the field where EE was preceded by "conservation education" and, before that, "nature study" (Palmer, 1998). The notion of geo-culturally sensitive "sustainable consumption" in variations of "affluence," be it in developing or developed countries, or local neighborhoods, gated communities, and quar-antined estates/enclaves warrants attention in critical, environmentally sustainable education policy, research, curriculum, and pedagogy within the "formal" and "informal" sectors of education. Hei-la's response serves as a timely reminder of the increasing gaps between poor and rich, be it locally, nationally, internationally, regionally, or globally. The desirable "fine grain" politics of policy mak-ing in ESD need to be seen in this harsher light.

6. MODERNIZATION—At risk of not (partially) "drilling down" (for indicative purposes, again, of finer sediments in the morphological braids) on the broader problematic of the entanglements of modernity and neoliberalism, postmodernity and the development of sustainability, and their associated epistemologies and methodologies, the discourse of environmentalism needs to be treated with caution. Also warranting further critical attention in our various recommendations for policy-making that takes seriously the local, translocal, bioregional, and transnational is the increasingly vexed relationship between globalization and the environment. Assumptions made about a modern and/or postmodern "democracy" and the contribution of education to it need to be qualified. For example, great care is now needed in understanding how the notion of edu-cation for "global/environmental citizenship" (GCED) has been conceptualized and is currently being rolled out by the UN. To be sure, there is no one national "model" of an idealized global citizenship, or universalized democracy, or their "developments" by whom, for whom and for what interests? From the "extreme" outside, recent brutal events in the Middle East attest to the regional and national (and local) problematics of an ecologically modernized notion of global citizenship, be it "contained'"within the nation state, or more fluidly, "mobile" across the planet. Absent from accounts of this devastation in the Middle East (but also elsewhere) is the contribu-tion of climate change to a policy quest for "security cosmopolitanism" (Burke, 2015) and, more precisely, the sustained "politics of water and drought" that adds yet another trigger to "conflict" in Syria (Gleick, 2014). "Presencing" this political outside in ESD as forms of environmental his-tories provides keener insights for its policy makers to grapple with in how, more generally over time and geographical space, societies and civilizations "collapse" or "choose to survive" (for example, Diamond, 2005). Although (environmental) "war" and (eco) "terrorism" are not men-tioned in this SI, nor is the anticipated tidal wave of "climate displaced" ecological refugees from low lying atolls and island states (Leckie, 2013), contributors here have directly and indirectly commented on some of the tribulations of what is often referred to as "ecological moderniza-tion" and its entanglements in versions of neoliberalism and its versions of free market/open borders "democracy" (for example, Christoff & Eckersley, 2013). The globalization of policies such as those "made" by the UN raise many questions about the assumptions (and authority) of any form of education and *citizenship* that misrepresents what we all too easily uncritically pre-sume is democracy, or democratic processes, or freedom, or choice, the common, or civil, or the global market. They are too numerous to list here beyond reiterating the commitment of critical versions of education to a strong and inclusive form of democracy, perhaps "post" modern democracy. However, one critical entry point to this globalizing view of ecological moderniza-tion and, subsequently, conceptions and practices of citizenship draws upon the already intro-duced notion of "geo-epistemology" as a "location of knowledge". Canaparo's (2009) reflexive critique of the construction of "Latin America" alongside others about, for example, the "Middle East" and "North Africa" mashed then as "MENA" (for, example, James, 2015; Pascoe, 2015)

and so on around the globe are salutary reminders about the problematic of "imposing" from the (Western, Eurocentric/North American modern and postmodern "center/centre" on the "other" and their "outsides" any homogenized and (techno)colonizing notions (and consumptive/exploitative practices) of, for example, an education for global environmental citizenship, among myriad applications of ESD and EE.

7. NATURE—we might now be forgiven for thinking, as a "figure of reasoning" that nature is, indeed, materially and/or symbolically and/or historically "dead," at an "end,'" "raped," "troubled," and so on, as various (scholarly) commentators in the Anglo-speaking North/West have pronounced over the past 30 years. However, greater nuance and sensitivity to a range of nonhuman differences and othernesses within each of the constructions of "culture" and "nature" is warranted before that "simplistic/reductive" (Western) binary construction is universally deconstructed and (overly) "hybridized" or, again, mashed at the discursive level of abstraction. Most authors contributing to this SI lamented the subordination of "environment" to the prioritization of economic and social assumptions and political imperatives in the policy-making processes and proposed "outcomes" of ESD. Furthermore, "environment," let alone "nature" from which notions of environment such as natural, built, open, wilderness, urban, rural, and so on are invariably derived, located, and "positioned" in policy is reduced, yet again, to limited concern and instrumental value about "environmental protection" and education for it. There is much more to "environmental" education and their sustainabilities from within different geo-epistemologies and their historical-cultural-ecological templates! Conceptions of nature, the human and nonhuman ecologies of things/other and the historical practices of social formations, cultural relationships, and modes of association with it/them vary over bodies, time, and space. Nature, in Australia (where I live) varies from Nature in China (where I recently taught a postgraduate "theories of environmental education") that varies from Nature in Peru (where I have regularly visited/studied the Andean/Quechuan/Spanish colonized "highlands" and altiplano over the past 30 years). Although deconstructing the alleged nature-culture binary might be fashionable in certain quarters, the universalizing implications of homogenizing and conflating nature and culture, and their environments, and humans and nonhumans, for EE and ESD are profound—theoretically, pedagogically, and practically. What then is "environmental education" and what is being "sustained" in relation to "nature" and its various "environments"—be they developed, overdeveloped, underdeveloped, civilized, impoverished, Country and Land, wild and rewilded, objectified, consumed, overconsumed, corporatized, and digitalized as the stealth of neoliberalism permeates and unevenly "layers" its "minings" and various sediments in all spheres of everyday life? In what ways is a river nature, or its morphology indicative of that imaginary? Or, be they "inner," "social," and "outer" natures? Primordial "Nature" pre-existed humanity/civilization/culture and still does, even in the Anthropocene, as a remnant and legacy. "First" Nature, as does the term "natural," serve heterogenously in "strange" ways as a benchmark, an organic physical property/quality and material reality, a cosmology, a sign, symbol and code, a historical memory, a remnant of problematic "progress" in even the most cultured/civilized "developments" of "modern," "modernizing," and "modernized" societies. "Nature" cannot remain invisible in research and policy makings, or pedagogically non-existent in practically forming our individual and collective environmental and socioecological relations. Far more nuanced responses to these pressing questions about the denaturing of "natures'"in EE and ESD and their researches and policy making processes, curriculum deliberations and pedagogical explorations is needed to gain greater insights into the complicities, hegemonies, resistances, and contestations *and* the micro/embodied, meso/social, macro/transnational, and meta/global "ethics" of the politics of (non or un)sustainability. Without such nuance, the globalizing/universalizing conflation/mashing of abstracted nature-culture and human-environment, potentially, dilutes and devalues the broader purposes and rationales of EE and ESD. Here, yet again, we have the outside politics of ontology, epistemology, and methodology—as played out on Nature/natures as physically "real/material" and "symbolized/socially constructed." This "tension" of

ontological presuppositions about "reality" and epistemological assumptions about "constructivism" (and methodological implications) is not new (for example, Soper, 1995; Soule & Lease, 1995, cf. Cronon, 1995) but has been revitalized as 'new' theory rematerializes the past/present/future.

8. "NEW" THEORY—"New" theory, turns, grammars, intellectual resources, methodology—All contributions to this SI rest "critically" upon certain assumed and presumed *framings* (and their namings) of the politics of policy making. ESD is *conceptualized* in a particular way, perhaps restrictively, in which different concepts, or conceptions, are used; how such conceptions are *contextualized*—globally, locally, in-between, and geo-epistemologically, even from the "outside"; the manner in which each critical contribution about a perceived reality and its material and symbolic conditions of (re)constitution are *represented*; and then *legitimized* in these discursive/textualized pages as an (approximated) object of inquiry, critique and "what next?" Academic educators and researchers live in exciting intellectual times (and scholarly climate changes). Contemporary (largely western) theory is undergoing a significant "movement" due to the acknowledgment and, often, acceptance of the Anthropocene. Four "big" absences were noted earlier. There are significant implications in the social sciences, arts, humanities and even "hard" sciences for educators, researchers, and policy-makers about how these contemporary turns in thought might inform the *reframings* and methodological *experimentations* with pressing research problems and questions, educational issues, policy making and curriculum/pedagogical deliberations across a wider range of geo-epistemological settings and their locations of knowledge. Some of these newer "intellectual resources" and "figures of reasoning," and "anomolous thought" have been alluded to above in the context of absences and silences that press down on the question of "what next?," "where to?," and "how?" These turns in theory over the past decade include moves to, for example, non-anthropocentric thought; a revitalized and reanimated ontological-epistemological basis of the various ecologies (and politics) of various things, objects, matter, and "stuff," and their agential relations; the significance of movement (and mobilities) in environments and communities; the non-human; the (inter)corporeal and animal; affect and affectivity within the perceptual/sensual aesthetic and ecoaesthetics and their non-accessible, non-correlationism, and non-representational "limits" (*sic*), following Thrift (2008). Lively debate about these, and other turns in thought, can be sourced in the literature of, for example, new or radical materialisms; post and ecophenomenology; speculative realisms; the human and its non or post or transhuman, or anti versions; feminist; queer; socio-geographical-cultural theory; anthropology; environmental humanities and arts; design; environmental ethics; and philosophy of nature. "Post-critical" assemblings of EER (Hart, 2005, 2013), policy, curriculum, and pedagogy awaits how the presencing of these moves/turns *might* assist in conceptually and methodologically overcoming various silences and absences and, if so, reinform environmentally and ecologically sustainable forms and practices of education—be it (ecological or less/non anthropocentric versions of) pedagogy, curriculum/programming, policy making, or research (and evaluation).

This post-critical listing is neither comprehensive nor exhaustive about the challenges confronting critical EE. Inevitably, EE and ESD, (their policy-curriculum-pedagogical-research - making processes) and politics warrant an enlarged socio-ecological imaginary and supporting generative agencies that are deeply responsive to the global melts and flows of numerous but entangled social and ecological injustices. Their deleterious effects flood the material, human and nonhuman, and their ecological demands, that constructive critical thought, resistance, and praxes might re/turn us to.

In the instance of this SI, "…we can no longer go there", if we fail to respond to Hart's (2013, p. 510) invitation to (re)examine "our own preconceptions and positioning". And going there, like a braided river with its edges and morphologies, emboldens Stevenson's (2013, p. 154) call for "wider representation…responsiveness….in a policy democracy" that enables agency(ies) of "critical reactions" at different human-non-more human scales and geo-historical-cultural-epistemological locations of knowledge and action. Put simply, two basic questions about *positioning* emerge from the critical

reaction represented here. First, for those directly involved in the politics of policy making *of*, or *for*, ESD, how are the recipients of such policies *positioned* by the policy implementation, enactment, evaluations, and how *might that differ* when this critical reaction, including the above silences and absences, is considered? Second, for those educators and researchers in EE and ESD (and beyond), if the preceding critical response from the "political outside" has currency and value(s) for our inside, then how, and in what ways, *might* it contribute to a *(re)positioning* of the agency it praxically enables in the structures/organizations/cultures your work represents?

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