



Think Piece Sustainability Education and (Curriculum) Improvisation

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Abstract

In this article I (re)think sustainability education in view of a (re)turn to realisms because existing philosophies have failed to adequately respond to an impending ecological disaster and the fast pace of new technologies. This historical moment has made geologists posit a new epoch, the Anthropocene. I argue that responses to this historical moment must overcome correlationalism generally, and in particular a narrow form of it called instrumental rationality. Correlationalism means that reality appears only as the correlate of human thought. I suggest that sustainability might be liberated from the fetters of correlationalism by invoking a metaphor from jazz music, improvisation. Improvisation that is anti-correlationalist involves being attuned to the reverberations of the earth, to its materials flows, rhythms and intensities. Moreover, pedagogy as improvisation does not merely use the earth as a stage on which pedagogical acts are performed, but pedagogy is bent by the earth. Moreover, sustainability education involves the development of sensibilities that are an amalgam of visual (videre), listening (sontare) and feeling (sentire).

Introduction

Environmental problems have reached unprecedented levels to the extent that it would be reasonable to claim that Earth is on the brink of ecological disaster. This is evidenced by, for example, two recent reports (Rignot *et al.*, 2014; Joughin, Smith & Medley, 2014) which indicate that the Antarctic ice sheet has begun an irreversible process of disintegration. Destruction of the earth's biophysical base should, however, not be viewed in isolation, but understood transversally through recognising the simultaneous destruction/erosion of the two other ecological domains: the social and the mental. In his book entitled *The Three Ecologies*, French psychoanalyst Felix Guattari (2001:41) asserts that there are three interlocking dimensions of the environment: the self, social and nature. In other words, nature cannot be separated from culture and that we need to think transversely if we are to comprehend the interactions between the three interlocking ecological registers. He writes:

Just as monstrous and mutant algae invade the lagoon of Venice, so our television screens are populated, saturated, by 'degenerate' images and statements. In the field of social ecology, men like Donald Trump are permitted to proliferate freely, like another species of algae, taking over entire districts of New York and Atlantic City; he 'redevelops' by raising rents, thereby driving out tens of thousands of poor families, most of whom are

condemned to homelessness, becoming the equivalent of dead fish of environmental ecology.

Destruction of the three interlocking dimensions of environment has reached unparalleled levels, giving rise to a historical moment, a potentially new geological epoch, the Anthropocene that Braidotti (2013) refers to as ‘a bio-genetic age’. The Anthropocene is a peculiar term for some though because in this geological epoch ‘non-humans make decisive contact with humans’ (Morton, quoted in Payne, 2016:169). Among other developments, this historical moment is witnessing a (re)turn to realisms: a return to critical realism; a turn to speculative realism and matter-realism (new materialisms) because existing philosophies (phenomenology, critical theory and post-structuralism) are no longer adequate for responding to current challenges. As Bryant, Srnicek and Harman (2011:3) write:

In the face of the ecological crisis, the forward march of neuroscience, the increasingly splintered interpretations of basic physics, and the ongoing breach of the divide between human and machine, there is a growing sense that previous philosophies are incapable of confronting these events.

Moreover, Johnson (2013:5) states that, ‘the naturalization of capitalism has made the epistemic limits of critical theory ever more apparent’. He argues that the theories that challenged the limits of the social continuum have ironically succumbed to the very economic analysis they were meant to confront.

A (re)turn to speculative realism, new materialisms (matter-realism) and critical realism is a response to the perceived limits of linguistic (post)structuralisms and other anthropocentric philosophies. All the realisms mentioned are opposed to what is referred to as naïve realism – the idea that an external observer is the locus from which the entire world can be grasped. Speculative and new materialisms are recent responses to the now ‘tiresome “Linguistic Turn”’ (Bryant *et al.*, 2016:1). Speculative realism denotes a range of thought but, put simply, it is a philosophy that signifies a return to speculating the nature of reality independently of human thought and holds that continental philosophy (phenomenology, structuralism, post-structuralism, deconstruction and postmodernism) has descended into an anti-realist stance in the form of what Meillassoux (2008:5) terms ‘correlationism’. Put simply, correlationalism means that reality appears only as the correlate of human thought – the limit of correlationalism is why conventional continental philosophy might be considered anthropocentric. New materialisms represent an interdisciplinary field of inquiry produced by a group of feminist scholars. In short, these scholars share the view that humans are not only socially, discursively and linguistically constructed, but also materially constructed. By material it is meant that human beings are made of the same physical materials as the non-human (more-than-human-world) and that all human systems (including systems of thought) are underpinned by material flows. New materialisms also extend agential capacities to the more-than-human-world.

The historical moment mentioned is also characterised by what Braidotti (2013:1) terms, the ‘post-human predicament’. This is because humans have reached a point where as a species

it is not only able to manipulate and control all of life but has the capability to destroy it. Human arrogance or self-esteem has reached its zenith. Yet at the same time the human body (or its parts) is being commodified and the genetic code is now capital. Moreover, non-human objects created by humans threaten to destroy all life including that of humans – objects such as drones, tools of biological warfare, the potential of nanotechnology to produce self-reproducing molecular machines called ecophages, and so on. In a technologically mediated world the boundary between human and machine is becoming blurred. Braidotti (2013:2) avers that it is a condition that ‘introduces a qualitative shift in our thinking about what exactly is the basic unit of common reference for our species’. The present condition could also be described as a time of crisis – a crisis of humanism that has reached a tipping point (for more on the crisis of humanism see Le Grange, 2013). Or, as Davidson (2000) suggests, that currently global society is delicately poised on a civilisational threshold similar to that of the feudal era. This is a time when outmoded institutions, values, and systems of thought and their associated dogmas are ripe for transcendence by more relevant systems of organisation and knowledge. In moments such as these, old questions remerge such as the perennial existential question of *how we should live*. So too do educational ones remerge such as, *what is education for* (Orr, 1992) or *what and how we should learn* (Le Grange, 2011). But, times of crisis also present new opportunities, create fresh imaginings and alternative meanings and turns. It is in this context that Hannah Arendt’s (1954:193) description of education written in the wake of World War II might be apposite; in particular her references ‘love the world’, ‘undertaking something new’, ‘something unforeseen by us’:

Education is the point at which we decide whether we love the world enough to assume responsibility for it and by the same token to save it from that ruin which, except for renewal, except for the coming of the new and young, would be inevitable. And education, too, is where we decide whether we love our children enough not to expel them from our world and leave them to their own devices, nor to strike from their hands their chances of undertaking something new, something unforeseen by us.

The post-human condition is characterised by complexity and uncertainty and cannot be engaged with through modes of thought and action that produced the challenges accompanying it. Here I refer to, among others things, the instrumental rationality that has come to characterise social practices such as education, captured in, for example, the notion of education for sustainable development (ESD). It is with this in mind that I open up ways of rethinking the constructs sustainability and curriculum so as to register possibilities of liberating these from the shackles of instrumental rationality.

Rethinking Sustainability

Brown (2015) argues that the contemporary idea of sustainability is of societal scope and not applied to only one sector. He writes: ‘Its claims are not merely utilitarian calculations of cost and benefit, but state the kind of society towards which we should aspire’ (2015:7). This is

evidenced by the recently formulated 17 sustainable development goals of the United Nations that provide an *a priori* image of a future global society.

Sustainability/unsustainability has been the subject of much contestation. There are difficulties with the term and some of the criticisms levelled against sustainability are: it has internal contradictions; it manifests epistemological difficulties; it reinforces a problematic anthropocentric stance; it has great appeal as a political slogan; it is a euphemism for unbridled economic growth; it is too fuzzy a term to convey anything useful; and it does not take into consideration the asymmetrical relation between present and future generations (for detail see Bonnett, 1999; Bonnett, 2002; Le Grange, 2008; Stables & Scott, 2002). Irwin (2008) also notes that sustainability has been taken up in neoliberal discourses and permeates multinational corporations, pan-global organisations, national governments, education policy, institutions and curriculum. In a similar vein, Parr (2009) suggests that sustainability has been hijacked by the military, government and the corporate world. Furthermore, Le Grange (2013) argues that the notion of ‘needs’ reflected in the popular definition of sustainable development should be understood in the context of the emergence of ‘needs’ as a political discourse in late capitalist society – that ‘needs’ is a political instrument. Brown (2015:2), however, argues that sustainability’s radical potential became hegemonised by the narrow concept of sustainable development, but that the latter is being eroded so that its future re-emergence could be a more powerful political concept. At this juncture, it is apt for me to turn to a discussion that opens up ways in which sustainability might be rethought. I shall focus on three alternative readings of sustainability: Parr’s (2009) notion of ‘sustainability culture’; Le Grange’s (2011) ‘sustainability as rhizome’; and Brown’s (2015) idea of ‘sustainability as empty signifier’.

In her book *Hijacking Sustainability*, Adrian Parr (2009) suggests that there is an alternative conception of sustainability to its co-opted form by governments, the military and the corporate world. She notes the need to distinguish between culture that functions as a point of disequilibrium and insurgency, and the mediated form of culture that functions as a point of control and order. The former, she suggests, is used to enhance life and the latter to limit life. The unmediated (or less mediated) culture Parr calls ‘sustainability culture’. The power of sustainability culture is *potentia* (the power of the multitude) and its presence curbs the power of the state, the military and the corporate world, that is, *potestas* (the power of the sovereign). Sustainability culture taps into the creative and productive energies of *potentia*, inviting us ‘to imagine and design alternatives to how a culture is produced, disseminated, and consumed’ (Parr, 2009:165). Moreover, it is optimistic insofar as it encourages us to work for a future that is based on the interest of the common good rather than on maximising profits. Sustainability culture aspires to create processes that affirm the vitality and dynamic materialism of life as these imbue life – this vital materiality is the ontological energy shared by all of life (2009:165). It (re) generates life by tapping into what is immanent to *potentia*, producing what is unimaginable but within the limits set by life itself. As Parr (2009:165) writes: ‘Yes life has limits – Earth’s metabolism can gulp down only so much of our waste, and Earth can recycle only a finite amount of the toxins industry spews into the atmosphere.’ In short, Parr argues that the co-opted or hegemonised conceptions of sustainability (*potestas*) could be counteracted by a sustainability culture that is grassroots – a movement that harnesses the creative potential of society (*potentia*).

Le Grange (2011) argues that sustainability could be a carrier of alternative possibilities if viewed rhizomatically instead of arborescently. A rhizomatic view of sustainability (education) decentres it, producing a distributed knowledge system that opens up pathways for including marginalised knowledges, including indigenous ones. Understood in this way, sustainability education connects the ideas, tools and skills of all participants involved (community members, academics/teachers and students) in multiple ways to produce 'new' knowledge in 'new' knowledge spaces. Deleuze and Guattari (1987) remind us that the rhizome has no points or positions, such as those found in a structure, tree or root – there are only lines. Lines enable proliferation in all directions to form assemblages. Sustainability (education) therefore could be understood as an assemblage, meaning that it increases its dimensions of multiplicity, and necessarily changes its nature as it expands its connections. Viewed in this way, sustainability is rescued from the normalising, homogenising and domesticating effects produced by an arborescent view of the term. Put simply, sustainability (education) as a rhizome connects in multiple ways with people and the more-than-human world, and learning involves understanding the interconnectedness of humans and humans, and humans and the more-than-human-world and how new connections might be generated. Rhizomes create new forms of cooperation, new knowledge spaces and unlikely fidelities.

Brown (2015) draws on the work of Ernesto Laclau and argues that sustainability might be viewed as an 'empty signifier' and that as an empty signifier it holds potential for radical politics. For Laclau (1996) an empty signifier is a 'signifier without a signified'. It is not a word without meaning but concerns the possibility of signifying the limits of signification. Brown (2015:3) writes:

This 'limit' refers not to a neutral, empirical boundary, as such a boundary could itself be signified and thus be incorporated into the signifying system. The limit in question is rather what has been excluded from the discourse. It is a 'radical' limit ... Since what is outside such a limit cannot be signified except through inclusion into the signification, the only way in which this limit can 'appear' is through the interruption or failure of the very process of signification.

Brown (2015:10) argues that empty signifiers stand in the gap when there are mutually incompatible discourses – discourses which are antagonistic. Discourses are antagonistic when they cannot be incorporated within a particular system of signification. Antagonistic relations result when there is something that the discursive system is unable to hold and leads to the dislocation of the identity of those who constitute the relation. In the context of our discussion, when dislocation occurs it brings into sharp focus the untenable futures the discourse is producing. For example, the strong focus on conservation/environmentalism at the conference on Human Development held in Stockholm in 1972 was challenged by members of the developing world who argued for the need for development to take place in their countries to overcome poverty and related concerns. Likewise, undesirable futures that would result from the continued use of fossil fuels (forming part of the economic rationalist discourse) have been brought into sharp focus by the climate change discourse. Put simply, what Brown is

arguing is that when sustainability is hegemonised into a narrow discourse such as sustainable development, the potential for discourses that are antagonistic to it is always there. Viewing sustainability as an empty signifier therefore makes a radical politics on sustainability possible.

For example, the dominant discourse of sustainable development is untenable because it relies on significant exclusions – captured by a rhizome of disparate social groups/movements: feminists, upstanding citizens, vegans, anarchists, communists, right-wing groups, environmentalists, to name a few. Brown (2015:17) argues that ‘as an empty signifier, sustainability allows these multiple ruptural points to be condensed in a generalised concern for the future’. Moreover, sustainability ceases to be an empty signifier when an ecologically and socially harmonised future is articulated, including all creative attempts to realise it.

Two points about the discussion on rethinking sustainability: firstly, in its territorialised forms (including its co-optation), sustainability has colonising, homogenising and domesticating effects; secondly, it can be a carrier of alternative ways of being and becoming – it can open up multiple pathways for becoming – it has the potential for radical political action – it can be harnessed as a grassroots culture that does not simply leave it to the market or governments, to sort out. However, to a lesser (Parr, 2009; Le Grange, 2011) or greater (Brown, 2015) degree, the approaches to rethinking sustainability reflect a correlationalist stance, that sustainability (sustainable futures) is a correlate of human thought and therefore anthropocentric. Hence, there is a need to explore alternative pathways for sustainability. We can’t eradicate human thought, but instead of reducing the world to human thought, human thought needs to be bent by the earth. This means that humans should not only inhabit the Earth but let the Earth inhabit them. Furthermore, the arrogant ‘I’ of Descartes’ *cogito*, should become an embodied, embedded, extended and enacted ‘i’. In this regard, much inspiration could be gained from indigenous peoples’ ways of being–knowing, where ethics involves a commitment to the entire cosmos (see Le Grange, 2012a; 2012b) and there is no distinction between being (ontology) and knowing (epistemology). Moreover, it is noteworthy that in the world of many indigenous peoples, the word sustainability does not exist – it is not something that needs to be strived for and that exists outside of being, but encapsulates everything indigenous peoples do (being and action).

These are tentative points for further exploration. What the discussion thus far shows is that the potential for lines of escape from hegemonised discourses is always present – that sustainability can be freed from the shackles of instrumental rationality. More can be said about this, but let us now shift the discussion to curriculum because, in the western(ised) world, education occurs in institutions, and ideas on sustainability form part of the curricula of such institutions.

Rethinking Curriculum: Aoki’s Story of Bobby Shew

In this section I shall explore how we might rethink curriculum so as to overcome the instrumentalist logic of dominant approaches to curriculum. This discussion can also serve to provide insights into how the instrumentalist logic of education for sustainability might be overcome. In my exploration I draw on insights from Japanese-Canadian curriculum scholar,

the late Ted Aoki. Much of Aoki's intellectual endeavours focused on questioning dominant views of curriculum and opening up new ways of thinking about curriculum. He argued that in our conventionalised world when the word, curriculum is invoked, it conjures up images of a master curriculum, that he called the *curriculum-as-plan* (Aoki 1999:180). He suggested that another meaning of curriculum needs to be legitimated, which is called the *curriculum-as-lived*, by teachers and learners.

In the winter of 1981 Ted Aoki, who was the then head of the department of secondary education at the University of Alberta, learned that Bobby Shew (a jazz trumpeter) was invited to be a visiting scholar to the music department across campus. He decided to invite Bobby Shew to speak at a staff and student seminar at his department. There were two questions that Aoki asked Bobby Shew to speak to, sing to or play to: 'When does an instrument cease to be an instrument?' and 'What is improvisation?' (Aoki, in Pinar & Irwin, 2004). Why did Aoki ask Shew these questions? For Aoki:

The field of curriculum has come under sway of discourse that is replete with performative words such as goals and objectives and products, achievement and assessment – words reflective of instrumentalism... (E)ducation is under hold of technological rationality ... we have become so production oriented that the ends-means paradigm, *a way to do*, has become *the way of doing*. (2004:368)

What were Bobby Shew's responses to these questions: To the question of when an instrument ceases to be an instrument, Shew said: 'When music to be lived calls for transformation of instrument and music into that which is bodily lived' – 'The trumpet, music, and body must become as one in a living wholeness' (2004:368). To the question of what it is to improvise, he said that when improvising with fellow musicians they do not only respond to each other but also to whatever calls upon them in that situational moment and that no two situational moments like life itself is the same. In his words: 'Exact repetition, thank God, is an impossibility' (2004:368).

Aoki (2004:369) argues that we need to rethink the instrumental language in curriculum talk, captured in expressions such as 'curriculum development', 'curriculum implementation', 'curriculum integration' and curriculum piloting'. Instead he suggests that we should develop a new language that is non-instrumental, with expressions such as 'curriculum improvisation' – and I would add 'curriculum experimentation'. Aoki argues that the notion of improvisation reverberates within us and animates us – curriculum improvisation 'provokes in us a vitalizing possibility that causes our whole body to beat in a new and different rhythm' (2004:369). Curriculum implementation demands of teachers to be loyal to a curriculum and is indifferent to their lives, as well as the lives of learners and the context in which they find themselves. In contrast, when teachers are improvisers, they are sensitive to both their own and learners' changing lives and experiences and the fluidity of the contexts in which they find themselves. Le Grange (2014) argues that in the case of curriculum implementation, the role of the teacher is akin to that of the conductor of a classical orchestra where the composer of the music (the outside expert/policy-maker) transcends the performance and although there is some

interpretation of the musical piece, the conductor (teacher) has to ensure that the members of the orchestra (learners) play each note correctly. A deviation from the musical sheet (the prescribed curriculum or policy) is viewed as a mistake' (Le Grange, 2014). Whereas in the case of curriculum improvisation, pedagogy is akin to improvisational jazz where every musician (student) is a composer – where a 'mistake' could be a line of flight that produces something new. In the classroom situation, although the [teacher] may be more experienced and 'knowledgeable', the educative performance, as in the case with improvisational jazz, is a meshwork of interactions that does not enable one to identify actions of teacher/lecturer that causes learning.

Performative words – such as aims and objectives, outcomes, curriculum development, curriculum implementation, policy-practice gap, standardised tests, sequencing and pacing, etc. – are part of instrumentalist language. It is the effects of instrumental rationality that are particularly dangerous. The effects of instrumental rationality are colonising, homogenising, dehumanising, domesticating, and so forth (for detail, see Le Grange, 2014, 2016). Curriculum becomes moribund and pedagogy banal. Pedagogy becomes cold and heartless and the Earth becomes a stage on which pedagogy is performed. Furthermore, multiple pathways (that exist prior to human thought) for transforming the world and for creating alternative futures are reduced to a single way of knowing, being and becoming. The upshot is that no newness is brought into the world. As with curriculum, it is a commitment to instrumental rationality that has resulted in sustainability education being hegemonised into a narrow discourse of education for sustainable development. The effect of this is unsurprising. A recent analysis of four Decade for Education for Sustainable Development (DESD) products, Huckle & Wals (2015:502) conclude that the DESD has been 'business as usual' as far as challenging neoliberalism and in promoting global education for sustainability citizenship (GESC). In a similar vein, the achievement of the Millennium Development Goals has been questioned and words such as failure have been used to describe the lack of achievement of targets of some of the goals (Saith, 2006; Easterly, 2009). This will inevitably be no different with respect to the SDGs of the United Nations.

Aoki's thoughts into the debilitating effects of an instrumental language in curriculum and his suggestion that new words need to be created to overcome such a language, provide useful insights into how we might (re)think sustainability education and in particular the narrow discourse of ESD; reflected on a global scale through the DESD on a national level through national curriculum frameworks and at a local level when teachers frame environmental/sustainability concerns in terms such aims, objectives and goals. Aoki's insights are also a cautionary note to the field of environmental education regarding words and language used, including the framing of the call for papers of this special issue of SAJEE that speaks about UNESCO's goals for 2030 and ESD. Therefore, we need to create new words/figurations that will bring newness into the world and create alternative futures – new words such as curriculum improvisation and the words discussed earlier with regard to rethinking sustainability such as sustainability culture, sustainability as rhizome and sustainability as an empty signifier. However, as pointed out, the words on sustainability might still have strong anthropocentric leanings and I shall argue, so too Aoki's thoughts.

Bobby Shew's response to Aoki's question, 'when does an instrument cease to be an instrument', is worth revisiting. I specifically refer to Shew's response, 'The trumpet, music, and body must become as one in a living wholeness.' Shew is saying that an instrument ceases to be an instrument when trumpet, music and body become imperceptible. But, I wish to extend this idea beyond the human and the instruments or artefacts he/she produces to a post-anthropocentric idea that includes oneness with the Earth. The subject of sustainability education that is post-anthropocentric is not an atomised individual but is ecological; embedded in the material flows of the Earth/Cosmos, constitutive of these flows, making the subject imperceptible. Pedagogies that are produced in the classroom are not performed on the Earth but bent by the Earth – teacher and student/learner become imperceptible and represent a microcosm of the living wholeness of the Earth/Cosmos. Aoki's notion of improvisation could also be expanded to not only be concerned with the human that reverberates from within and is animated, but to include the vibrations of the Earth, its flows, rhythms and creative intensities. We need to create new concepts that open up opportunities for experimentation. It is in experimentation with the real that we expand our powers to enhance life in a context where we are presented with challenges of a post-human condition.

Aoki (in Pinar and Irwin, 2004:373) argued that the instrumental language in curriculum privileges the visual (*videre*) because this approach to curriculum is based on the natural sciences, where observation is privileged. Aoki argues for the importance of hearing/listening (*sonare*) – that we need to hear the words of the instrumental language in curriculum; curriculum development, curriculum implementation, curriculum integration, curriculum piloting so that these words and the instrumental language can be transcended. Moreover, Aoki suggests what we might listen to by quoting Heidegger, 'We have ears because we are hearkening, and by way of this heedfulness, we are allowed to listen to the Song of the Earth' (in Pinar and Irwin, 2004:375). But, I would add that we also need to feel (*sentire*) the earth – its material flows, its creative intensities.

Conclusion

The post-human predicament invites a questioning of social norms, an interrogation of existing modes of thinking and doing. The historical moment in which we find ourselves comes with uncertainty and complexity and there can be no predetermined pathway for/to the future. This historical moment invites experimentation, improvisation, re-imaginings and sensibilities attuned to the sounds of the Earth, its heartbeat and its affects. Instrumental rationality dissipates when the self (the arrogant I) becomes imperceptible – when subjectivity becomes ecological rather than atomised. Sustainability becomes about acting positively in the world through extending our powers to enhance life. Braidotti (2006:259) avers that 'a positive ethics of sustainability is ... an act of faith in our capacity to make a difference and as such it is an expression of generosity and love of the world. It is also a plea, an open question, a reaching out, or invitation to the dance ('let's do it').'

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