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A meditation on what a post-human education might look like: "Touching something beyond myself and my time"

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> *"It requires courage to quit the beaten paths in which the great majority of well-educated men have walked and still walk … Conservatism is never more respectable than in education, for no-where are the risks of change greater."*
> *Charles W. Eliot, The New Education, 1869*

Abstract

Two academics meditate on the state of education and seek wisdom from the poets and other creative writers to illuminate their unknowing. We acknowledge the growing disquiet that all is not working well in education. Is the education on offer fit for purpose? Does it prepare students for a world of disappearing professions, spreading automation where the implications of the next disruption are unknown, unimaginable? Does it meet the urgent needs of the Anthropocene and of changing social structures of a post-human world? We sense the need to reconsider the contemporary everyday. We reach back to the past, to nature, to ground ourselves in the senses of what is real, and true, as a way to open a door to this unfathomable future. In doing so, we notice distinctions, boundaries and categories that trap us in the present, yet point to potential futures. In shining a light on these, we return to the conviction that a future education needs to be useful. An education of the future needs to return to the world and a natural order where we relinquish our human dominance. We share the questions that arise out of our meditation on the challenges of an education of the future. We hope these questions will 'stimulate, provoke, inform and inspire' others to collaborate on the answers.

Introduction: An agenda for a future education

> "What happens to us
> Is irrelevant to the world's geology
> But what happens to the world's geology
> Is not irrelevant to us.
> We must reconcile ourselves to the stones
> Not the stones to us."
> From Hugh MacDairmid, On a Raised Beach, 1934

Hugh MacDairmid's long 1934 poem ranged widely through what we now understand as a post-human age. It is a deep contemplation of the relevance of humanity and nature. It is a potentially grim vision, at least to a contemporary society fixated on its own primacy, on its own eternity. MacDairmid's contemplations reveal the folly of modern humanity, revealing and celebrating the absoluteness and infinity of "the unsearchable masterpiece, the music of the spheres" that is nature.

What might we learn, from an educational perspective, from MacDairmid's exploration? To commence, MacDairmid exhorts us to be humble: "We are so easily baffled by appearances / And do not realise that these stones are one with the stars. / It makes no difference to them whether they are high or low, / Mountain peak or ocean floor, palace, or pigsty". It is pertinent that the current geological era – the Anthropocene – is prominent in our thinking, a period we name by reference to ourselves, our influence on the environment, but in which we are increasingly losing control. An era when the stones will have their revenge.

MacDairmid offers suggestions how humanity might respond. He suggests an opening of eyes, acknowledgement of the inseparability of humans and the world, and acknowledgement of nature's primeval character. Is this the beginning of a manifesto for a new education? MacDairmid probably did not conceive of his words in this way. However, nearly a century later, as the Anthropocene rears its head, and the urgency of a significant shift in human-nature relations becomes blindingly clear, his words resonate. Elsewhere we posit the need for a "multi-dimensional perspective on social and ecological systems – and most importantly on our engagement with them – one in which properties of interconnectedness, flows of energy and materials, linkages, feedback, relationships, and agency play central roles. … It is a perspective borne of Deleuze and Guattari's [1987] concept of … the interrelatedness of everything … in which learning is all encompassing and ceases to be pedagogically – and disciplinarily – bound" (Boyd, 2020, p.101). The language differs, but the sentiments parallel MacDairmid's insights. We both ask how to prepare for a significant change in relationships between humans, non-humans and the world. Recognition and acknowledgement of a post-human reality is a good educational first step.

MacDairmid argues for what might be read as a true, embedded, relational (post-human) environmental education: "The reality of life that is hard to know. / It is nearest of all and easiest to grasp, / But you must participate in it to proclaim it. / – I lift a stone; it is the meaning of life I clasp". It is, thus, an education built on participation, interaction and faith: we need to "find the faith that builds mountains / Before they seek the faith that moves them". It is an environmental agenda, anti-development, anti-destruction. It is, furthermore, an articulation of a post-human future in which "the binaries of human-nature, adult-child, person-animal, public-private … are rendered obsolete ... [and Deleuze and Guattari's] concept of milieu asserts its relational self as an honest framework for a productive response to the Anthropocene … [and] of real, continuing and experiential learning, by all parts of the world, located in the interstitial space that is the Anthropocene world" (Boyd, 2020, p.102).

MacDairmid's poem may be read as a post-human educational manifesto. If so, it comes with a cost, a natural consequence of a true mergence of humanity and nature, a true recognition of nature's primacy over humans. It ends in death, the human returning to nature, the ultimate realisation of the integrated, relational position of humanity in the world. While this may be an education of participation, integration, inseparability, it is also an education of reality, the reality of one-ness. MacDairmid does not seem to see this eventuality negatively. Rather, he celebrates optimism: this is the true and virtuous inevitability of an honest post-human engagement, the natural graduate outcome of a post-human education.

> "How else does any man yet participate
> In the life of a stone,
> How else can any man yet become
> Sufficiently at one with creation, sufficiently alone,
> Till as the stone that covers him he lies dumb
> And the stone at the mouth of his grave is not overthrown?"

Method: Engaging the post-human on its terms

This article is a meditative exploration of possibilities for a post-human education by two senior academics: one from geography, the other from psychology. It is framed by Deleuze's distinction between royal science and minor science – the distinction between "institutionally implemented and well funded … and underfunded and marginalized" (Braidotti, 2017, p. 90). Our interest was piqued by Braidotti's claim that minor science acts "as an ethically transformative and politically empowering event", a claim residing in a post-human ethos, in which Braidotti's 'missing people' are actualised, and majoritarian knowledge production is overturned. We explore the possibility that a post-human education could be reframed to address her statement (p. 93):

> "The dwellers of this planet … are interconnected but also internally fractured by the classical axes of negative differentiation: class, race, gender and sexual orientations, and age and ablebodiedness continue to index access to normal humanity. This rhizomic field of posthuman knowledges does not aspire to a consensus about a new

humanity but labors to produce a workable frame for the actualization of the many missing people, whose "minor" or nomadic knowledge is the breeding ground for possible futures."

In introducing papers on 'thinking with Deleuze', Lisa Mazzei and Kate McCoy make a curious claim: we are in a time "of researching situations that we no longer understand, 'situations which we no longer know how to react to, in spaces which we no longer know how to describe'" (Mazzei and McCoy, 2010, p. 503, quoting Deleuze, 1989, p. xi). A description of the future? If so, our quest for a future education should draw on methods suitable for such a context, a Deleuzian "straining [of] meaning and representations … towards transformations of research practices and knowledge". Rather than tracing the familiar – risking future as a version of the present – can we map the unfamiliar? Mazzei and McCoy, drawing on Deleuze and Guattari's seminar book (1987, pp. 12-14), guide us. We engage a cartography "orientated towards an experimentation in contact with the real" to produce a map "with 'multiple entryways' [producing] encounters that come up against and move through … blockages [tracings of the already-known]" (p. 506). Our seemingly unrelated vignettes map out "a zigzag path of provisional connections … to represent them in ways that gesture towards what has come, and what has been, toward a 'becoming' methodology" (p. 506).

Our methodology deliberately avoids established normativity, preferring to be "conceptualized as an experiential process in which experiences are mapped and connections, events, and senses documented … past experiences are not represented, but new experiences … created through emerging events and multidimensional connections" (Hendricks and Koro-Ljundberg, 2015, p. 281). We actively engage with quotes that perform both as data and as stimulants for contemplation. Our meditation focuses on the large concepts rather than the specifics of teaching. To meditate on a future, our method is "performative … remaking, reacting, and reconstructing … [offering] proliferation, potential, opportunities for expansion and – above all – creativity in scholarship" (pp. 280 and 265).

Which brings us to the fold – a doubling or twisting; a creation of being. For Foucault, "history was the "doubling of a being" … that what was past or in an archive was also passed … also mirrored or folded into a diagram", Tom Conley (2011, p. 194) explains, "History was … what sums up the past but that can be marshalled for the shaping of configurations that will determine how people live and act in the present and future". Typically Deleuzian, the fold is complex. This coming together of inside and outside, past and present, materiality and force (etc., etc.) offers powerful potential. The human subject, we are reminded, "can only be understood "under the condition" … of the fold and through filters of knowledge, power and affect … the fold … is shown as something creased between things stated or *said* and things visible or *seen*" (Conley, 2011, pp. 194 and 196), while "thinking means "folding, doubling the outside with its co-extensive inside" [to quote Deleuze, 1988, p. 118] … [creating a] topology … by which inner and outer spaces are in contact with each other" (Conley, 2011, pp. 194 and 196). From (re)openings newness emerges; the fold is "what opens the otherwise closed condition of the event" (p. 201), in our case, the limitations of knowing the future shackled to the present. We are buoyed by Deleuze's

recognition of poetry as fold: "poetry combines subject and predicate in the creases between seeing and reading … [taking] place in the vibrations … [of] the doubling of ... words … The poet sums up … the "operations" and action of the fold where words are seen and read, explicating their own conditions of the possibility of melding, perception, being, sensation and subjectivity" (pp. 201-202).

In practice, each vignette is a fold in itself – crumples of past and present, of experience, perception, materiality, spirit and so on. Individually opened, they reveal insights; crumpled together, refolded, twisted, the insights magnify. On opening, what emerges are suggestions to the future educator.

A caveat – adapting Justin Hendricks and Mirka Koro-Ljunberg's (2015, p. 281) reminder: "Doing research this way is certainly risky, … but we believe that by working in the spaces in between … we can enlarge and enrich [our scholarship] in ways that have not yet been thought of and can liberate [it] from the root-tree thinking that so often dominates and represses". Here we are reminded of the importance of intelligent questions as they - "stimulate, provoke, inform and inspire" - (Sloane, 2017).

Fold One: Minor knowledge and reassessing author(ity)

We have been examining a body of minor knowledge, a collection of largely unrelated articles regarding Indigenous matters arising out of largely unfunded and non-programmatic research at our university over the last twenty-five years. We planned a conventional literature review of publications, from our young university, addressing Australian Indigenous matters. The received wisdom is that there was little such writing. To our surprise, we discovered a rich vein of publication, some three hundred articles authored by a hundred and seventy authors. We will report this surprising finding in detail elsewhere, but what piques our interest here is the nature of this collection of articles.

It became apparent that most articles were published by academics not identified as research active. They mostly reported unfunded research. The work was rarely part of a research program, more individual responses for greater understanding, spin-offs from and responses to serendipitous outcomes from other work. They are deterritorialized (Bogue, 2018); they are scattered. We identified articles across many fields – we hesitate to call them disciplines: arts; business, economy and management; culture, identity and heritage; education and training; environment and national resources; gambling; health and wellbeing; policy, politics and law; research methods; and tourism. Within these fields, diversity is the norm. Nineteen publications by thirteen authors in the arts, for example, span music, writing and visual arts; twenty-eight articles in gambling cover issues, cultural values and behaviour, and thirty-one (by twenty-nine authors) in culture, identity and heritage examine folklore, different knowledges and identity. And so on. Authors contributed both from their own disciplines and across disciplines. Their boundaries are porous; bleeding between disciplines is clear, interests in issues and people overriding constraints of disciplinary boundaries. The aprogrammatic nature of this body of work is refreshing. These conclusions inform our meditation on a future education – its potential to be porous, transdisciplinary, aprogrammatic.

The individual studies, we acknowledge, provide small insights in themselves – their conventional role in a majoritarian environment. However, we recognise this serendipitous collection of writing to be a body of knowledge in itself that constitutes "multiple hybrid connections of the minor sciences that [may] sustain … new epistemological openings" (Braidotti, 2017, p. 92). Set in a majoritarian environment of the university, this body of work shines light on the possibility of scholarship outside the boundaries of authorised enquiry. It echoes Bogue's (2018, p. 135) rephrasing of Deleuze's definition of the minor, of literature that embodies "experiments with language [these articles refuse to speak the bureaucratic language of institutionally-controlled research] … treats the world as a network of power relations [absolutely inevitable in any scholarship of Indigenous matters] … opens possibilities for a people to come [notably those who have been, remain, and will rise again]".

This line of thinking on the authority of authorship goes further. Meet a recent set of articles whose primary author is the country from which the knowledge comes (Lloyd *et al.*, 2012; Wright *et al.*, 2012; Suchet-Pearson et al., 2013; Bawaka Country *et al.*, 2015, 2016). That country is Bawaka Country, in Northeast Arnhem Land, Australia. The case for country as author is deceptively simple, best told in Bawaka Country's own words (Bawaka Country *et al.*, 2016, pp. 468–469):

> "This paper would not have been written the way it is, would not include the words it does, if Yuwululnurra had not brought ganguri back from Burralku. Yes, the academics in the research collective reshaped our words for the paper, submitted it and responded to the reviewers and editors. However, this paper was authored by Bawaka Country. Bawaka Country, as lead author of this paper, guided, inspired and enabled. It empowered learning, opened avenues of discussion and made us – human and more-than-human – who we are. The experiences, understandings, and learnings this paper contains would not exist if not for Bawaka Country [...]. And as you will now realize, this fundamentally includes its nine human co-authors who co-become with and as a part of Bawaka – not indistinguishable from it, but continually shaped by their intra-relationships."

Our colleague, Rob Garbutt, drew our attention to this exciting possibility. In an unpublished conference paper, he comments that, "in the case of Bawaka Country there is a clear contribution to the conception of the research and the interpretation of data". He continued to quote Bawaka Country *et al.* thus: "Bawaka Country, as lead author of this paper, guided, inspired and enabled. It empowered learning, opened avenues of discussion and made us – human and more-than-human – who we are. [...] We cannot definitively separate the contributions of the humans from the contributions of Bawaka Country – be that the ganguri that we dig together or the gukguk that calls". Country, Rob reminds us, is much more than land we have a relationship with.

We, therefore, question the dominance of 'big' scholarship (Deleuze's 'royal'), and through Braidotti's lens argue that this collection is better understood in terms of post-human monistic vitality: the sum of

the parts as meaningful social and intellectual contributions to Indigenous society is far greater for its rhizomic monism than as a sum of individual parts. Bawaka Country reinforces this conclusion, amplifying it manyfold, usefully shifting our focus from human to non-human – or, perhaps more correctly, more-than-human. This position allows the academy to view individual contributions not just as individual contributions. Have we stumbled upon a new foundation for a post-human education? Have we opened a door to an education that need not pay its dues to the establishment, may play with language, question power and authority, and, most especially, be relevant and pertinent for all those who are not in positions of power?

Fold Two: Knowing past, knowing future

> "Time present and time past
> Are both perhaps in time future
> And time future contained in time past"
> T.S. Eliot, Four Quartets: Burnt Norton, 1935

Before progressing to the future – a purely abstract and speculative entity, at least to our Western eyes and mind – we consider what lessons the past can provide. We are not thinking of specific events of the past, or at least our modern understanding of these events, but more of our relationship with the past, and how it might inform our relationship with a future. It may be argued that the past is more knowable than the future, simply because it happened. Yes, it happened, for us, in a Western linear sort of way, but does that make it any clearer? As time slips back through what we call 'history' into what we call 'prehistory', the focus shifts. Contemporary sensibilities of history tell us that the critical difference is that one is founded on reliable and accessible written records, the other on crumbling artefacts and remains of material cultures. The certainty of the written is deemed more authoritative, more true, than the uncertainties of material archaeological fragments. The shift in focus results in an almost quantitative change from seeming speculation to seeming certainty. In the absence of a language of material fragments, how can we know the who, the what, the where, the when of past human activity?

It is not, however, this shift of focus that catches our attention. It is a shift of relationship, a relationship between the modern reader or observer and the milieu of the past at any given time. If we understand how we relate to a past with a material presence, can we gain insight into a future whose materiality is yet to come? Can such an understanding assist us in defining the reliability and rigour of our meditations, to accept a degree of trustworthiness in our future thinking, to demonstrate the limits of our credibility, transferability, dependability and confirmability of conclusions or insights (Morse et al., 2002)? Or are we left with an assumption of authority as described by James Robertson. In describing the images on a Pictish stone, dating from around fifteen hundred years ago, at East Keillor Farm, in Angus, Scotland, Robertson (2017, p. 39) mused:

"Near the top is an animal – some authorities say a wolf, others a boar or a bear. Further down are other Pictish symbols: a double-disc and Z-rod, and concentric circles near the base which may represent a mirror. What do they mean? I have no idea, which makes me only slightly less of an authority than the authorities. For the truth is, the people who raised and inscribed this stone and hundreds like it left no explanations of what they and their markings say."

Robertson's insight into the locus of authority is, in an educational sense, an invitation for a communal, shared authority, born of active engagement rather than power and authorisation by an establishment. It is an invitation for Braidotti's missing people to claim their intellectual right to knowledge and learning.

The past, however, could lead us to intellectual despair – a lack of explanatory notes triggering what some may see as the ultimate relativism: anything goes. The leaving of no explanations may, however, play to our advantage. Alistair Moffat, in his 2017 essay on the ancient sky temple at Cairnpapple Hill in West Lothian, Scotland, reflects on his relationship with the past, not a historic past but a deeper prehistoric past. His thoughts resonate with possibility for an educative future. "What engages my emotions and inclinations is the nature of our prehistory," he tells us, "Precisely because it is anonymous, it is perforce that elusive thing, a people's history …" (p. 30). His comments, reflecting his engagement with the missing people of the past, point us to the future. He explains that "accidents of survival" have allowed archaeologists to uncover, for example, houses of ancient farmers and magnificent religious sites. We come close to touching the people who lived, loved, worked, laughed, died on the land – "We do not know the names of kings and queens, priests or warriors," he reminds us. This is important. It does not matter who these people were: everyone (or arguably, everyone else) mattered. They were part of the land; indeed, in some senses, they were the land. And they could equally have inhabited a post-human world, readily slipping under the cloak of Braidotti's missing people. Can the voices of ordinary people be reheard? Moffat implicitly reminds us that Braidotti's missing people have populated the past, and that their very distance from the future allows them to stand up, emerge from the yoke of authority, the power and willfullness of the rulers, establishment and grand history, and come to life again after all these years. We don't know the names of kings and queens, but we know where the ordinary person ate and slept. And so we come to another question: If we are to engage in an educative relationship with a post-human age how would we engage with the missing people? Should our conversation be with those outside the establishment?

Fold Three: Touching beyond ourselves and our time

Anthropology and archaeology have long helped us understand that much of the world is sacred; it has been so for people for a very long time. In a time when science and rationality dominate Western thinking, scholars still invest considerable intellectual energy into understanding the significance of rock paintings. One such scholar is the Finnish archaeologist, Antti Lahelma. In 2010, he challenged us, in his exploration of the non-visual significance of ancient Finnish rock art, to release the visual as the dominant mode of understanding. Lahelma reminded us that "our whole way of thinking [is] … rooted

in visual metaphor: we have various 'insights' … 'outlooks' … 'point of view' … [etc.] on issues … Hence, [everyone] should try … to escape this 'tyranny of the eye' in order to avoid projecting Western understandings into prehistoric situations" (p. 49). Lahelma argues that "the total nature of both the experience of the sacred and the phenomenon of rock art needs to be considered", listing a range of sensory experiences involved in "orchestrating an experience of the sacred": sight, sound, smell, taste, and, of relevance here, touch. He draws attention to a deep human urge, the urge to touch things. While his concern is with the ancient, he comments on modern and contemporary visitors to museums and galleries, places that are first and foremost "optical spaces", where touching art and artefacts is generally forbidden.

> "… if you watch the crowds in any museum, you will see people touching the exhibits despite the prohibitive ropes and the watchful eyes of the guards. They do so not only because it is forbidden – but also because they ... use touch to investigate an object's surface, to verify what they have seen or in an attempt to make a connection with the past … In other words, they do so in order to get a more intimate and personal knowledge of the objects they are looking at. … knowledge is not detached from the body, but rather the human body should be seen as the ground of culture and thought."
> (pp. 48-49)

Perhaps provocatively, Lahelma suggests that ancient handprint 'art' may not be a deliberate graphic device, but the incidental residue from the probable ritual practice of touching rock faces. He unsettles the dominance of a visual interpretation – that the image is somehow a representational or symbolic image – by suggesting that the rock faces with the 'art' have both significant ancient sonic and tactile properties. He concludes that, "handprints … represent a real 'hands-on experience' of the sacred cliff … [and that] in order to communicate with it, and access its supernatural potency, … rituals … involved touching the cliff …" (pp. 55, 58). This is powerful stuff, evidence of a tangible connection between people and the world.

Touching rocks and stones is significant. It offers another insight to an education that would engage what Karen Barad (2007) simply calls the 'interconnectedness of all things'. We may not understand what that interconnectedness is; indeed, we may not be aware of it. But our muscle memory knows of it, and our bodies cannot desist from it. Just as the Antti Lahelma's gallery visitors cannot help touching the artefacts, so James Robertson cannot help connecting with his Pictish stone. Whenever he passes it, he is obliged to touch it (2018, pp. 40-41):

> "I circle widdershins – against the movement of the sun, which might be deemed unlucky for some, but I am left-handed and it seems natural to me – and touch it, front and back, before moving on. I don't know why I do this. It is a habit born, no doubt, out of some superstition that would crumble on examination, but I have a positive feeling

about this stone, and a strong desire to renew contact on every visit. I feel as if I am touching something beyond myself and my time."

Regardless of any anthropological interpretation of the touching of rocks, regardless of MacDairmid's eloquent statement of an intimate and necessary human participation with and in nature, James Robertson puts his finger on the nub of the matter. He articulates a key relationship with a post-human age and its education. Should or would a post-human education centre on the touching of something beyond-ourselves-and-our-times?

Fold Four: Useful knowledge

Two decades ago, Agrawal explored possibilities of diverse knowledges that might be "useful to particular peoples … [whose] specific strategies for protecting, systematizing, and disseminating knowledge will benefit different groups of people in different ways" (1995, p. 3). Agrawal gives us confidence in the validity of diversity, suggesting that it makes eminent sense to consider "multiple domains and types of knowledge, with differing logics and epistemologies …[and] that the same knowledge can be classified one way or the other, depending on the interests it serves, the purposes for which it is harnessed, or the manner in which it is generated". More fundamentally, Argawal reminds us that, "knowledge can only be useful".

How might such 'usefulness' be relevant to a post-human education? One final perspective may be helpful. Braidotti suggests an urgent need for "qualitatively new discourses". In doing so, she draws our attention to "the urgency of the Anthropocene condition, which [she reads] … as being environmentally, socioeconomically, and affectively and psychically unprecedented… [in which] the exacerbation of economic and social inequalities … makes for a multifaceted and conflict-ridden situation" (2017, p. 84). The emerging world has become a "hotbed of uncertainties": shifting from solidity to liquidity; the separation of power and politics; the state withdrawing support for individual failure and ill fortune; the collapse of long-term thinking, planning and acting; and shifting responsibility for resolving issues to the individual (Bauman, 2007). In short, a changing world in which the established world order and social structures are breaking down, the post-human condition in which the primacy of 'Man' is set aside, in which agency of environment and the global system as a unitary entity is revalidated, and in which critical thinking is essential. It is an intellectual environment of new thinking that does not "coincide with the traditional humanities disciplines but … rather [to] hybrid crossover formations" (Braidotti, 2017, p. 84). Importantly, it is an intellectual environment that opens the door for an essential reconsideration of the roles of western scholarship and the institution of education, and therefore for opportunities to meditate on what that scholarship and education might look like, might taste like, and might feel like in a post-human world.

Fold Five: Diffusing time

Our meditation is about time. A perennial interest in the concept of time has continued from classical times to the present. Philosophers and scientists have been unable to agree on the nature of time,

including its structure and its perception (Kincacon, 2002). Nevertheless, human bodies, responding to the circadian clock, have been shown to track the daily cycles of light and dark that affects the physiological processes of sleep and hunger. Humans have also responded to the electromechanical clock that organises those cycles of light and dark into measured days, hours, minutes, and seconds. Moreover, people have viewed time as a resource of value and make decisions about how to use it in direct relation to the benefit they believe they will receive from such investment. They also sense time psychologically; divide time into past, present, and future; and express these fundamental distinctions in language. Individuals experience psychological time personally and differently. Time, it seems, won't go away, and it won't stand still.

Time, it seems, demands an understanding of self, a parallel understanding of the self that is essential to a complete understanding of the processes that generate and regulate thoughts, feelings, and behaviours (Robins, Norem and Cheek,1999). The self is understood to have continuous existence through time so that the experience of life events is dependent on an ability to sense time; life events appear positioned along a continuum from distant to proximate so that an individual's present life space is not limited to the here-and-now, but extends back into the past and forward into the future (Lewin, 1951; Fraisse, 1981). Neisser (1994) proposed that people are "'temporally extended' in both directions – into the past via memory and into the future via anticipation" (p. 16), such that "our sense of self, who we are, is intricately interwoven with our sense of who we have been and who we will be in the future" (Fivush, 2001, p. 35).

Unfolding: Questions for the future educator

A return to Hugh MacDairmid: "I lift a stone; it is the meaning of life I clasp". How might a future education encourage learners to engage with the stones, to relish the sensory experiences of Lahelma's "orchestrating an experience of the sacred"? How might they engage with knowledge that is useful, not merely available, ubiquitous and reliant on mass production? How might they do so in an institution – 'education' – that has evolved little from its nineteen-century Taylorist origins and other manifestations of industrial age management philosophy focusing on functions, duties and responsibilities? Cathy Davidson (2017) has, for example, argued that the infrastructure of contemporary higher education no longer serves students well; the real action is happening outside traditional areas, in situations where students are offered "original research, real-world project, internships or experiential learning outside of the various requirements and assumptions of traditional majors" (p. 45). Like our surprising research findings, it is often unfunded, outside establishment's ideological goals and structures, and spontaneous and serendipitous by nature; it is education answering an inner calling. The future may be closer than we think. What might a future education look like? How might the learner grasp the meaning of life? Our meditation suggests questions for the future educator, hoping to prompt further insights into a future education of deeper engagement.

- From MacDairmid, we learn of the fundamental nature of non-human in knowledge. An education predicated on such knowledge would suit a post-human age. It might articulate, simultaneously, the subordination of human to non-human, and the unbreakable connection between human, non-human and more-than-human. Learning would need to enable a oneness with the world, drawing a fundamental distinction from the contemporary separateness of the human.

- In considering Deleuze's minor knowledge, such an education is encouraged to question the establishment and authority. It may do this through aprogrammatic learning, a focus on issues, and an understanding of the non-human as author and authority. A future education would emphasise the importance of the minor, and the subordination of the majoritarian view.

- In thinking about the past, we learn that time is lumpy and multi-directional, perhaps non-directional, amorphous. A future education would benefit from a reassessment of time and its properties. Perhaps with a fading of time as a dominating organising principle, and a fusing of past and present, a future education will be liberated from the present obsession with linear unidirectional time, with the inevitable 'progress' that currently organises educational outcomes.

- Drawing on the past as a window to the future, we learn about people as a reiteration of unauthorised people, the everyday – life within the non-human, not apart from it – and the value of de-identification of individuality and the rise and reassertion of the communal. The everyday becomes a key focus for learning.

- Drawing on Roberston's touching something beyond-ourselves-and-our-time, we learn of the magic of place and the world – the stuff most vigourously rejected by contemporary rationalist and reductionist science-based knowledge. Despite such rejection, a basic human need remains for magic and mystery. We also learn an importance of not necessarily knowing stuff, but feeling it, of the importance of touching, of corporeal embodiment of relationships between human and non-human.

Our meditations have been supported and encouraged by a considerable extant body of work. We are conscious that colleagues from many disciplines are engaged in exploring these shifts away from dualism towards a fundamentally multidimensional and shared existence. Our concern is not to replicate this, but to refocus it within the notion of a post-human education. We are acutely aware that we are not alone in addressing this challenge. We, therefore, invite the readers to collaborate with us in a quest for answers.

References

AGRAWAL, A., (1995). Indigenous and Scientific Knowledge: Some Critical Comments. *Indigenous Knowledge and Development Monitor (IKDM)*, **3**(3), pp. 3-6.

BARAD, K., (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning.* Durham and London: Duke University Press.

BAUMAN, Z., (2007). *Liquid Times: Living in an Age of Uncertainty*. Cambridge: Polity Press.

BAWAKA COUNTRY, WRIGHT, S., SUCHET-PEARSON, S., LLOYD, K., BURARRWANGA, L., GANAMBARR, R., GANAMBARR-STUBBS, M., GANAMBARR, B., AND MAYMURU, D., (2015). Working with and learning from Country: decentring human authority. *Cultural geographies,* **22**(2), pp. 269-283.

BAWAKA COUNTRY, WRIGHT, S., SUCHET-PEARSON, S., LLOYD, K., BURARRWANGA, L., GANAMBARR, R., GANAMBARR-STUBBS, M., GANAMBARR, B., MAYMURU, D., AND SWEENEY, J., (2016). Co-becoming Bawaka: Towards a relational understanding of place/space. *Progress in Human Geography*, **40**(4). pp. 455-475.

BOGUE, R., (2018). The minor. In Stivale, C.J. ed. *Gilles Deleuze: Key Concepts* (2nd Edition). London and New York: Routledge. pp. 131-141.

BOYD, W.E., (2020). "It is not a question of either/or, but of 'and ... and'": The socioecological learner as learner-teacher-researcher. In: A. Cutter-Mackenzie, A. Lasczik Cutcher, J. Wilks, M. Logan, and A. Turner, eds., *The Socioecological Learner: A transdisciplinary approach to 22nd century education*. Palgrave pp. 99-138.

BRAIDOTTI, R., (2017). Critical Posthuman Knowledges*. The South Atlantic Quarterly,* **116**(1), pp. 83-96.

CONLEY, T., (2011). *Gilles Deleuze: Key Concepts* (2nd edition). London: Routledge.

DAVIDSON, C.N., (2017). *The new education: How to revolutionize the university to prepare students for a world in flux.* New York: NY Basic Books.

DELEUZE, G. (1988). *Foucault.* Minneapolis: University of Minneapolis Press.

DELEUZE, G., (1989). *Cinema II.* London: Continuum.

DELEUZE, G. AND GUATTARI, F., (1987). *A thousand plateaus: Capitalism and schizophrenia*. London: Continuum.

ELIOT, C.W., (1869). The New Education. *The Atlantic*, February 1869.

ELIOT, T.S., (1936). *Collected Poems 1909-1935,* London: Faber and Faber.

FIVUSH, R., (2001). Owning experience: Developing subjective perspective in autobiographical narratives. In C. Moore and K. Lemmon, eds., *The Self in Time*. London: Lawrence Erlbaum. pp. 35-52.

FRAISSE, P., (1981). Cognition of time in human activity. In G. d'Ydewalle and W. Lens, eds., *Cognition in human motivation and learning*. Belgium: Lawrence Erlbaum. pp. 233-259.

HENDRICKS, J. AND KORO-LJUNDBERG, M., (2015). Inquiring through and with Deleuze: Disrupting theory and qualitative methods in family studies. *Journal of Family Theory and Review,* **7**, pp. 265-283. DOI:10.1111/jftr.12082.

KINCACON, E., (2002). Time and sensation. *The Journal of Psychology,* **136**(3), pp. 350-352.

LAHELMA, A., (2010). Hearing and touching rock art: Finnish rock paintings and the non-visual. In Goldhahn, J., Fuglestvedt, I. and Jones, A. eds. *Changing Pictures: Rock Art Traditions and Visions in the Northernmost Europe.* Oxford: Oxbow Books. pp. 48-59.

LEWIN, K., (1951). *Field theory in the social sciences: Selected theoretical papers.* New York: Harper.

LLOYD, K., WRIGHT, S., SUCHET-PEARSON, S., BURARRWANGA, L., AND BAWAKA COUNTRY, (2012). Reframing development through collaboration: towards a relational ontology of connection in Bawaka, North East Arnhem Land. *Third World Quarterly,* **33**(6), pp. 1075-1094.

MACDAIRMID, H. (1934). *Stony Limits, and Other Poems.* London: Victor Gollancz.

MAZZEI, L.A. AND MCCOY, K., (2010). Introduction: Thinking with Deleuze in qualitative research. *International Journal of Qualitative Studies in Education,* **23**(5), pp. 503-509.

MOFFAT, A., (2017). The Sky Temple. In A. McCall Smith, A. Moffat, J. Crawford, J. Robertson and K. Jamie. *Who Built Scotland: 25 Journeys in Search of a Nation*. Edinburgh: Historic Environment Scotland / Araineachd Eachdraidheil Alba. pp. 29-37.

MORSE, J.M., BARRETT, M., MAYAN, M., OLSON, K. AND SPIERS, J., (2002). Verification strategies for establishing reliability and validity in qualitative research. *International journal of Qualitative Methods*, **1**(2), pp. 13-22.

NEISSER, U., (1994). Self-narratives: True and false. In Neisser, U. and Fivush, R., eds., *The remembering self: Construction and accuracy in the self-narrative*. New York: Cambridge University Press. pp. 1-18.

ROBERTSON, J., (2017). Who are You, and What do You Think You're Looking at? In A. McCall Smith, A. Moffat, J. Crawford, J. Robertson. and K. Jamie, *Who Built Scotland: 25 Journeys in Search of a Nation*. Edinburgh: Historic Environment Scotland / Araineachd Eachdraidheil Alba. pp. 39-55.

ROBINS, R.W., NOREM, J.K. AND CHEEK, J.M., (1999). Naturalizing the self. In L. A. Pervin and O. P. John, eds., *Handbook of Personality: Theory and Research* (2nd ed.). New York: The Guilford Press. pp. 443-477.

SLOANE, P. (2017). *The leader's guide to lateral thinking skills*, London: Kogan Page.

SUCHET-PEARSON, S., WRIGHT, S., LLOYD, K., BURARRWANGA, L., AND BAWAKA COUNTRY, (2013). Caring as Country: Towards an ontology of co-being in natural resource management. *Asia Pacific Viewpoint,* **54**(2), pp. 185-197.

WRIGHT, S., LLOYD, K., SUCHET-PEARSON, S., BURARRWANGA, L., TOFA, M., AND BAWAKA COUNTRY, (2012). Telling stories in, through and with Country: engaging with Indigenous and more-than-human methodologies at Bawaka, NE Australia. *Journal of Cultural Geography*, **29**(1), pp. 39-60.