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Yoshifumi Nakagawa & Phillip G. Payne

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Postcritical knowledge ecology in the Anthropocene

Yoshifumi Nakagawa and Phillip G. Payne

Faculty of Education, Monash University, Clayton, Australia

ABSTRACT

The always vexed relationships between philosophy, theory, methodology, empirical work and their representations and legitimations have been thrown into chaos with the belated acknowledgement of the Anthropocene. Unsurprisingly, traditional Western thought may have been complicit, given its underlying anthropocentric assumptions and humanist commitments in education philosophy, theory and practice. The postcritical knowledge ecology developed here is applied to both a modest and responsible form of methodological inquiry in an ethnographic study of nature experience. Our contextualised experiment adds to the nascent literature of an environmentally oriented education now demanded in the Anthropocene.

KEYWORDS

The Anthropocene; knowledge ecology; postcritical; modesty; responsibility; postrepresentation

Introduction

Melting icebergs, deep ocean warming, surface heating, hurricanes, rising sea levels, increased storm surges drowning low lying atolls and inundating coastal areas. Fires, floods, famines. Mass extinctions of terrestrial and marine species. Displaced peoples and cultures. Eco-refugees. Serious ecological problems are occurring around the world, and they are most likely anthropogenic, meaning *we humans caused or exacerbated them, and other beings and things did not*. Is education part of the problem and/or part of the solution? Whatever one's views are on the matter, education must now recognise and address our ecological complicity and capacity *responsibly* and, at the same time, *modestly*.

Amongst an increasing number of thinkers and researchers, the environmental philosopher Val Plumwood (2003) argued that anthropocentrism might well be the root cause of the current ecological crisis. The philosopher of education Michael Peters (2015) challenged the humanist bias of education. Indeed, Western environmental ethics relevant to environmental education theory and practice engaged in numerous debates about the concepts of anthropocentrism, weak anthropocentrism, non-anthropocentrism and so on throughout the 1980s and 90s (Payne, 2018). The 'centre' of human thought remains a philosophical problem for environmentally oriented education, particularly in the time of ecological crisis: the Anthropocene.

Amongst all of this chaos of persistent movements of thought in education (Kneller, 1984) submerged in the Anthropocene, we focus on the philosophical question of human modesty and responsibility in the formative knowledge ecology anticipated in education philosophy, theory and practices. To do so, we indicate one way of translating this ecologically ethical double movement of both modesty and responsibility into a postcritical methodological inquiry and experimentation in education *for* the Anthropocene. To contextualise our methodological experimentation, we employ a recent postcritical ethnographic study of Willing Workers on Organic Farms (WWOOF) (Nakagawa, 2017a).

The Anthropocene knowledge ecology

The two key terms in this paper, the Anthropocene and knowledge ecology, warrant brief elaboration in order to clarify specifically what we mean by modesty and responsibility in this paper. First, the Anthropocene is defined as 'Earth's most recent geologic time period as being human-influenced, or anthropogenic, based on overwhelming global evidence that atmospheric, geologic, hydrologic, biospheric and other earth system processes are now altered by humans' (Welcome to the Anthropocene, 2017).

The acknowledgement of the Anthropocene at the turn of the millennium highlights how humans have exceeded, or surpassed, nature as the primordial force regulating the planet. Humans exert irreversible power and control over other beings and things on Earth. In this circumstance, for the survival of not only humans but also other beings, maximising our ecological *responsibility* to know, plan and modify the environment is increasingly required in the Anthropocene (Williams & Srnicek, 2014).

On the other hand, the Anthropocene also means that, over time and space, mediated and constructed by humans, everything is now ontologically interconnected, entangled and interdependent in the Earth's ecological system. We are in 'this' together, as Rosi Braidotti (2006) repeatedly reminded us. In this ecological circumstance, instead of persisting with the privileged category of 'human', becoming with 'other' beings, with care and opening curiosity (Haraway, 2008), may be a crucial onto-epistemic mode in the Anthropocene. By *modesty*, we mean an ethical sense of wonder, which evades and exceeds the humanist knowing that subjugates and controls 'others'.

This planetary ontological–epistemological–ethical tension in the Anthropocene, indicated with the notions of modesty and responsibility, compels us to reconsider ways of being, thinking, knowing, valuing, becoming, relating and acting in and with the more/other-than-human world in the field of education. The process will be complex, if not contradictory, since an approach to ecological sustainability in the Anthropocene most likely requires a double movement (Philippopoulos-Mihalopoulos, 2015). There is no clear-cut either/or answer in the Anthropocene. The Anthropocene postcritically requires *both*.

The notion of knowledge ecology was a dedicated theme of the Philosophy of Education Society of Australia (PESA) Conference 2016 held in Fiji. A knowledge ecology is 'an ecosystem of knowledge', and the '[k]nowledge tied to the ecosystem cannot generate an alienating discourse, that serves to separate and disengage communities from within the physical ecosystems they are embedded' (Philosophy of Education Society of Australia (PESA), 2016), confirming the inseparability of ontology and epistemology in the Anthropocene. The 'communities' and their 'physical ecosystems' in particular places and their scales need to be relationally considered at the planetary level, where every being, human and non-human, are ecologically entangled in the Anthropocene (Heise, 2008). Thus, the scales of the Anthropocene knowledge ecology enigmatically encompasses *both* the local and the global, and *both* the sensual that limitedly appears and the real that withdraws into the totality, using Graham Harman's (2011) terms for the quadruple object informing his version of speculative realism. Connecting the Anthropocene knowledge ecology to the double movement of modesty and responsibility, such an epistemological approach simultaneously requires both modest (un)knowing and responsible (re)knowing. Importantly, in addition, any claim made as a result of this postcritical approach of un/re-knowing is both modest and responsible, meaning that what is 'known' is meaningful for humans for the time being but is open to becoming into other forms.

This paradoxical double as the form of the Anthropocene leads us to pause and ask: *how can we engage with the complex realities implied in the Anthropocene knowledge ecology and communicate our research in a form that still makes sense?* To engage with these perplexing epistemological and communication problems in educational inquiry, our aim in this paper is to suggest a postcritical methodological framing that simultaneously practises both modest (un)knowing and responsible (re)knowing for the new type of knowledge needed in the Anthropocene.

Both modesty and responsibility

...the Anthropocene makes plain *both* our fundamental interdependence with the earth and all its inhabitants *and* the very costly and taken-for-granted modes through which we live as humans. [our emphasis] (Roelvinka & Zolkosb, 2015, p. 14)

The Anthropocene knowledge ecology urges us to become *both modest and responsible* in our (un/re)knowing and acting on the environment, and this provides a crucial principle for environmentally oriented education in the Anthropocene (Nakagawa, 2018). In conceptualising these twin ethical priorities for the Anthropocene knowledge ecology in educational philosophy and theory, we were inspired by Andreas Philippopoulos-Mihalopoulos's (2015) notion of 'epistemologies of doubt'. Philippopoulos-Mihalopoulos suggested two paradoxical onto-epistemologies that are *both* required in the Anthropocene: *continuum and ruptures*. By continuum, Philippopoulos-Mihalopoulos meant an onto-epistemic hybrid that 'contains no distinction along the lines of human/natural/artificial/technological' (p. 33). Philippopoulos-Mihalopoulos understood this hybrid entity as a Deleuzian assemblage where humans are inseparable 'parts', becoming with other material agencies within the system. On the other hand, ruptures are 'folds on the continuum, differential planes of perspective, vantage points of reorientation' (p. 38) in which epistemology may 'divorce, however temporarily, from ontology' (p. 38). For Philippopoulos-Mihalopoulos, ruptures are fundamentally humanist illusions. Yet, *they are necessary for us* to engage responsibly with the continuum, because the continuum is 'inherently amoral' (p. 40). In the Anthropocene, when human ecological impacts are greater than ever before, paradoxically, rupturing is our human responsibility for the ecological continuum.

Philippopoulos-Mihalopoulos's call for both continuum and ruptures may be understood as an ecologically attuned problematisation of the centredness in human epistemologies (or anthropocentrism) in the Anthropocene. For Philippopoulos-Mihalopoulos the centre, however problematic it is, shall remain as a necessary illusion that is the locus of humanly responsible thinking and rupturing. Thus, he concluded that so-called 'ecocentrism' is doubly problematic: first, it is epistemologically unlikely (i.e. human thinking probably requires a human centre), and second, even if it is possible, it is likely that it leaves no ecological ethics with which we can practise rupturing. Put simply, although humanism may be philosophically problematic, the human still ecologically matters. If so, perhaps, ecologising humanism into a postanthropocentric form is a potential educational strategy that deserves a reconsideration for the Anthropocene knowledge ecology.

Environmental education and its research is now a fifty-year long effort to reconceive mainstream educational discourse following the rise of the environmental and ecologically just movements of the 1960s and 70s (for example, Stevenson, Brody, Dillon, & Wals, 2013). In this context, the recent new materialist interest in, for example, non-anthropocentrism, posthumanism and, even, anti-humanism, demands a heightened reflexivity about the preferred 'position' of the researcher, as well as the theorist or philosopher of (environmental) education (Payne, 2016). We reiterate the philosophical caution for the centeredness of human thought with both modesty and responsibility. Thus, we do not totally abandon anthropocentrism for the Anthropocene knowledge ecology. Instead, we recommend a mix of de-centring the human subject, within a weaker or less anthropocentric view of methodology in conceptual and empirical approaches to educational and educative research, in order to keep problematising the new centre of the Anthropocene knowledge ecology.

Postcritical postrepresentation

This de/re-centred version of the Anthropocene knowledge ecology in our un/re-knowing *postcritically* demands the paradoxical logic of *both/and*, avoiding too big a shift from a humanist present. We do not abandon the methodological procedure of representation either. Instead, we problematise it—hence *postrepresentation*. In this study, for the methodological notion of postcritical postrepresentation, as well as considering 'the extent to which researchers disclose authorial presence or "voice" within' (McCaslin, 2008) generated knowledge, we are eco-epistemologically inspired by an earnest debate about 'posts' in

critical environmental education research (Hart, 2005), given the empirical context of the ethnographic study in informal environmental learning.

Specifically, however, we draw upon Caren Kaplan's (1996, p. 3) 'postmodern critical perspective' (*postcritical*, to shorten) that she developed in her feminist cultural studies on tourism, *Questions of Travel*. According to Kaplan, the commonly accepted clear-cut divide between a modern traveller and a postmodern tourist is unlikely. In her work, she demonstrated that a modern journeying subject was figured with *both* categorical archetypes of the 'traveller' and the 'tourist'. So was/is a postmodern journeying subject. Kaplan's postcritical perspective focuses on 'continuities as well as discontinuities' (p. 11) that possibly exist in a complex social phenomenon. *An important point here is that Kaplan critically used the rupturing categories of traveller and tourist in order to deconstruct the journeying figurations that cannot be named and represented, effectively striking "a balance" of postmodernism and critical theory'* (Lather, 2001, p. 480). Kaplan's postcritical perspective not only resonates with Philippopoulos-Mihalopoulos's onto-epistemic continuum of modesty and occasional ruptures of responsibility, but also provides a clue to possible methodology for us to consider nascent paradoxes in and of the Anthropocene knowledge ecology.

Kaplan's postcritical methodology demonstrates that critically rupturing and applying categorical representations such as 'the traveller' and 'the tourists' are beneficial for critiquing problematic geographical and historical constructs. In doing so, it becomes possible to think modestly of the complex continuum of the knowledge ecology, albeit within the epistemological and methodological limitations of language. Conceptual or discursive attempts to access all the various global and real others of still remnant and remembered nature, as well as methodological description and interpretation of the ontological beingness and thingnesses of the relations of human and other-than-human, are most likely inevitable (Payne, 2005, 2013). Postcritically, however limited, representation is a methodologically necessary process for understanding the Anthropocene knowledge ecology.

Recently, various methodological efforts have been made in educational philosophy and theory to critique anthropocentrically representational epistemologies and their routinised research 'methods' (Weaver & Snaza, 2017). Often inspired by and aligned with agential realism (Barad, 2007), material feminism (Alaimo & Hekman, 2008), new materialism (Coole & Frost, 2010), vital materialism (Bennett, 2010) and posthumanism (Braidotti, 2013), the decentring of the human is gaining traction in post-qualitative inquiry in education where traditional qualitative research methods, particularly interpretation and then representation, are rigorously critiqued (St. Pierre, 2013). Related Special Issues dedicated to 'new' turns in theory and thought have been published in influential journals in the field of education: for example, *International Journal of Qualitative Studies in Education* (Lather & St. Pierre, 2013); *Critical Studies ↔ Critical Methodologies* (St. Pierre, Jackson, & Mazzei, 2016), and *Educational Philosophy and Theory* (Pedersen & Pini, 2017).

St. Pierre, Jackson and Mazzei (2016) are prominent figures in the new critiques in educational inquiry. With possible divergences, their consensus is to view '[t]he dimensions of the plane of thought being laid out by the new empiricisms and new materialisms is not clear, nor will it ever be because it is always being laid out, becoming' (p. 103) with other beings, human and non-human. Human thought is thus materially interactive, experimental and experiential, performative and generative of multiple realities (Mol, 1999), instead of interpreting and then representing the static single reality. Jackson and Mazzei (2013) viewed knowledge (ecology) as a Deleuzian machine into which theory is 'plugged in' to form an agentic assemblage together with the researched (Mazzei & Jackson, 2017). That is, theory, the researched, and the researcher *do* create knowledge intraactively, rather than the first two *being* the sources of knowledge to be represented by the researcher. Knowledge generated in this new onto-epistemological manner is affective and often non-representational (Thrift, 2008).

St. Pierre, Jackson and Mazzei, amongst many, potentially offer valuable insights for how to translate the ethical priority of non-anthropocentrism into onto-epistemic research practices in education. These authors seem to effectively and affectively embody what we call *modesty* in this paper for the Anthropocene knowledge ecology. However, there appears to be little engagement by these mainly North American advocates of the 'new' with other twists and turns in associated Western

movements of thought typically aligned with continental philosophies, such as ecophenomenology. Ecophenomenology, a version of postphenomenology, is an important philosophical and theoretical turn that decentres human consciousness emphasised in the traditional emphasis of (Husserlian) phenomenology (Brown & Toadvine, 2003). Be it ecophenomenology or other turns in the (environmental) humanities and arts, continuous debates—philosophical, conceptual, methodological and practical—are needed if the promise and potential of the Anthropocene knowledge ecology is to proceed more modestly in educational inquiry.

While the recent development of post-qualitative inquiry in educational studies offers a significant contribution to what we conceptualise as epistemological modesty, we see two potential risks that could methodologically undermine human responsibility for the Anthropocene knowledge ecology. The first is in de-emphasising the undeniable human ecological capacity for agency and change. The second is in deterritorialising the knowledge ecology to be affectively reterritorialised by the digitalised rise of technocapitalism. Postcritically, we suggest that these risks be methodologically addressed in educational inquiry.

Brief elaboration of the two risks is needed. First, after poststructuralism, many of us would probably accept that representation is philosophically problematic or at least not straightforward. There is something Quentin Meillassoux (2009) called ‘ancestrality’, the outside of Kantian correlationism, where humans and their world are not necessarily conceived as mutually dependent through the logic of representation. In the ancestrality, the falling tree exists regardless of our hearing it and representing it. However, at the everyday social level, quasi-representation as reductive simulation of the ancestrality seems to work more than just fine, and it can sometimes even be pervasive (Baudrillard, 1993). Collectively, we have caused sufficient damage to Earth by felling the trees that we can hear and represent. This may indicate that human representation is philosophically finite and limited, but that does not mean that its limited finitude is non-functional at the social level (Newton, 2007). In fact, what humans do in and with this finitude is now significant enough to affect humans and nonhumans in the Anthropocene.

Second, relatedly, deterritorialisation of a knowledge ecology by some humans may be immediately followed by reterritorialisation by other humans, and the researcher must be aware of this social risk. The deterritorialised knowledge ecology may downplay ‘actual social relations or processes in the historical development of [human] consciousness’ (Rekret, 2016, p. 16), possibly providing ‘popular posthumanists’ or ‘transhumanists’ with opportunities to recolonise and recapitalise the flattened power-knowledge space (Simon, 2003). Nigel Thrift (2008) warned this possible reterritorialisation of the everyday time–space with the example of contemporary cars with advanced computer software and ergonomics through which the non-representational affectivity of our body is increasingly commodified by technocapitalism for our convenience and pleasure.

Together with the above sociological risks, Jason J. Wallin (2017) pointed out that the non-representational finitude of the ancestrality is inevitably represented by humans so that they can think about it.

Where the meaning of the world is always-already given to a human subject, the potential of commencing a post-human or ahuman ethics becomes severely diminished. In this scenario, the terms upon which life can be thought are already established from the vantage of human subjectivity. (pp. 4, 5)

What Wallin importantly suggested is the persistence of the representational ruptures in human thought that coincides with ecologically modest aspirations for the non-representational continuum in educational inquiry. The ‘new’ non-representational ‘romance of matter’ (Quinn, 2013, p. 749) alone is probably insufficient for the risky knowledge ecology in the Anthropocene. Non-representational matter turns into a social phenomenon that is representational, if in a limited way, when collectively experienced and objectivated by humans (Berger & Luckmann, 1967). In educational inquiry, therefore, a ‘dual perspective’ (Quinn, 2013, p. 749) for education as a social phenomenon is methodologically needed to practise *both* the non-representational modestly *and* the representational responsibly.

In the following section, we introduce a recent ethnographic study of Willing Workers on Organic Farms (WWOOF) (Nakagawa, 2017a) as an example to demonstrate how postcritical postrepresentation

may be methodologically framed and applied, pragmatically using Ted Toadvine's (2009) ecophenomenology and Paul James's (2006) meta-methodology of constructive abstraction thesis.

Willing Workers on Organic Farms (WWOOF)

While our emphasis in this paper is methodological rather than empirical, we illustrate our thinking via the empirical insights gleaned from a recent ethnographic study of Willing Workers on Organic Farms (WWOOF) (Nakagawa, 2017a), to contextualise the global and real Anthropocene knowledge ecology as a phenomenon that we may be able to access locally and sensorially, if partially.

WWOOF is an emerging ecotourism phenomenon with a global growth in popularity in recent years, including in Australia. WWOOF involves two major parties: hosts and participants (known as *WWOOFers*). It can be described as a mobile, fluid and liquid ecotourism phenomenon befitting the various interpretations of globalisation and associated formulations (such as consumption) of 'ethics' (Bauman, 2008). Typically, a WWOOFer stays at a host's property and works for four to six hours a day, over a number of weeks or months, in a voluntary manner but receiving meals and accommodation in return. Effectively, manual outdoor labour in a rural setting is exchanged for temporarily satisfying basic needs of security and accommodation during a tourist vacation. The WWOOFer's daily work may include tasks such as weeding, harvesting and tending farm animals. Due to its allegedly less commodified arrangements and hands-on organic activities in natural settings, participating in WWOOF as a WWOOFer (known as *WWOOFing*) is considered as an authentic and alternative tourism experience (McIntosh & Bonnemann, 2006). Its practical form of environmental ethics may also provide for informal or experiential environmental learning (Fletcher, 2015).

In all, WWOOFing offered an interesting case for partially accessing the lived complexities of a 'nature experience' in the Anthropocene, as well as examining how a nascent knowledge ecology theory is constructed locally as well as globally. Methodologically, for our purposes, its ethnographic undertaking demanded an ecophenomenologically modified systematic means to postrepresent WWOOFers' nature experiences, modestly and responsibly (James, 2006; Toadvine, 2009). To note, however, since our main purpose in this study is to consider a potential postcritical methodological framing for the Anthropocene knowledge ecology, the empirical findings from the WWOOF ethnographic study will not be described in detail due to limited space.

Postcritically postrepresenting WWOOFers' nature experiences

The ethnographic fieldwork was conducted during a four-month period in 2014, over approximately 50 days and nights at five geographically and socio-culturally diverse rural WWOOF sites in the State of Victoria, Australia. The ten international WWOOFers who participated in this study consisted of three Britons, three Germans, two Italians, one South Korean and one Taiwanese. As a researcher/WWOOFer, one of the authors spent approximately one week with each research participant on-site, to work and live with them, in addition to observing and interviewing them. This more bodily involved fieldwork was needed in order to access the research participants' nature experiences sensorially and empathically (Pink, 2009), potentially beyond mere representational textualism (Payne, 2005).

What are the WWOOFers' nature experiences? This environmentally educational inquiry focus was set as the research problem (RP), since the notions of both 'nature' (e.g. Soper, 1995; Williams, 1983) and 'experience' in experiential education (Fox, 2008) are philosophically complex. The research focus on the problematic categories of 'nature' and 'experience' in WWOOFing, we believe, is an appropriate example to postcritically illustrate a specific (Wolfe, 2010) aspect of the Anthropocene knowledge ecology that phenomenologically manifests itself locally and sensoriously while, at the same time, withdrawing into the global and the real (Harman, 2011; Kaplan, 1996).

In order to guide the methodological process of limited access to the philosophical complexity of the RP specifically, Ted Toadvine's (2009) ecophenomenological framing of 'nature experience' was employed. Toadvine recommended that the overarching RP of nature experience be approached by

disaggregating it into a triad of research questions about the *experience of nature* (RQ1), the *nature of experience* (RQ2) and *their relation* (RQ3). While RQ1 in particular is related to the modest (un)knowing, we observe here that the relation in RQ3 is experientially ecopedagogical where 'nature' refers to both human and other-than-human variants as/in the designed environment that manifests sociological issues such as human agency over nature and technocapitalism, which require a responsible reconsideration of nature experience (Nakagawa, 2017b). In short, making sense of nature experience by disaggregating the overarching RP via the three interrelated RQs was a needed methodological experiment to practise a limited and specific access to the RP with both modesty and responsibility.

Ecophenomenology is a 'philosophical ecology, that is, a study of the interrelationship between organism and world' (Brown & Toadvine, 2003, p. xiii) conducted from a less anthropocentric point of view. David Abram (1996) described Merleau-Pontian phenomenology as that which emphasises the sensorial and corporeal dimension of openly participative perception as a 'philosophy on the way to ecology' (pp. 44–72). Since the philosopher/researcher is embodied and grounded within the interrelationship of the knowledge ecology, knowing the world objectively and accurately from a bird's-eye view is unlikely (Toadvine, 2009). Thus, ecophenomenology instead focuses on specific and 'concrete descriptions' of the interrelationship from within (Brown & Toadvine, 2003, p. xvi). Elsewhere in environmental education, one of us (Payne, 2013) recommended an ecophenomenological framing of inquiry to prioritise 'an ecopedagogical narration of human-environment' (p. 427) that intercorporeally and eco-somaesthetically unfolds.

The accuracy of knowing being problematised via ecophenomenology, representational responsibility still needs to be postcritically addressed, even if in a limited form. For this purpose, Paul James's (2006) 'constitutive abstraction thesis' offers a useful meta-methodological framework to incorporate the temporarily rupturing depth (or height) of theoretical abstraction into Toadvine's ecophenomenology. Following Sharp's (1985) initial theory of extended social relations, a post-Marxist historical materialist formulation of the constitutive abstraction thesis, James's key premise is that the continued 'process of abstraction is constitutive of social relations and social being rather than just an activity that occurs in people's head' (2006, p. 320).

This indicates two principles of James's constitutive abstraction thesis. First, constitutive abstraction involves socio-material processes in addition to psychological processes. Second, understanding a social phenomenon requires a process of abstraction that structurally focuses on its social constitution beyond the empirical appearance and evidence. Thus, to do so, the constitutive abstraction thesis employs a *levels approach* to a social phenomenon with four interrelated stages of 'epistemological abstractions' (in order of less abstract to more abstract): *empirical analysis*; *conjunctural analysis*; *integrational analysis* and *categorical analysis*.

An advantage of James's (meta-)methodology is that it allows the researcher to employ various theorists and methodologists so that he/she can specifically explore each level of epistemological abstraction. However, while it incorporates a potential spectrum of postrepresentation materialised as levels, epistemological abstraction is inherently 'systematizing' (James, 2006, p. xiii) and thus probably anthropocentric, risking the postcritically preferred eco-methodological tension between modest (un)knowing and responsible (re)knowing. For this reason, we believe, Toadvine's ecophenomenology and James's constitutive abstraction thesis are indeed a good (mis)match for methodologically enacting Philippopoulos-Mihalopoulos's epistemologies of doubt and their axiological derivatives of modesty (for continuum) and responsibility (of rupturing) in the limited context of the ethnographic study.

In the following, we experimentally focus on how inserting Toadvine's ecophenomenology, together with other theorists and methodologists, into James's constitutive abstraction thesis (particularly, its key element of epistemological abstraction) may keep vitalising the onto-epistemo-ethical tension to be addressed for the Anthropocene knowledge ecology. Figure 1 visually previews the methodological process. Conceptually, the less abstract end corresponds to the modest continuum, while the more abstract end to the responsible rupturing.

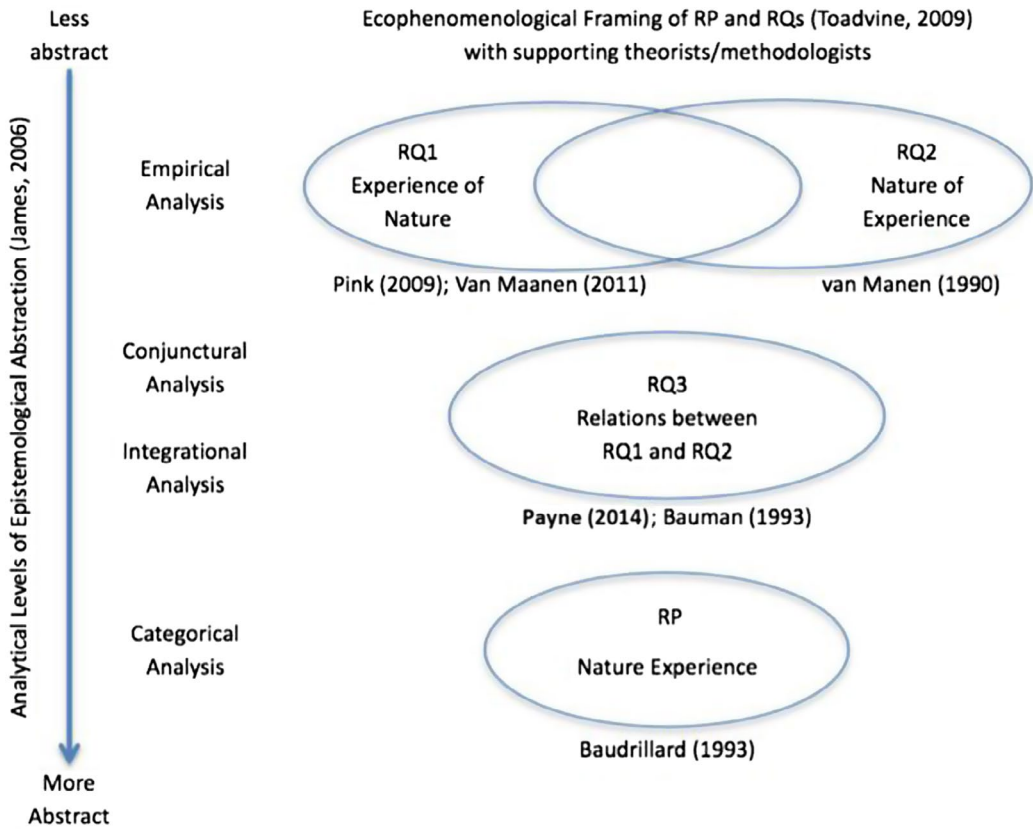


Figure 1. Methodologically integrating James's (2006) epistemological abstraction and Toadvine's ecophenomenology (2009) for Philippopoulos-Mihalopoulos's (2015) epistemologies of doubt.

Ecophenomenologically ecologising epistemological abstraction

In this limited space, for an indicative purpose only, we illustrate how the postcritical postrepresentation of a knowledge ecology in the Anthropocene may be partially enabled and then practised through the methodological process of an ecologised version of epistemological abstraction. A degree of ecologising James's epistemological abstraction via ecophenomenology is needed, so as to decentre and then reconstruct a less anthropocentric and less representational understanding of the Anthropocene knowledge ecology. In the ethnographic study of WWOOF, we experimentally incorporated various environmental concerns and ecological matters into the four levels of epistemological abstraction for the educational purpose of partially accessing WWOOFers' nature experiences as a socio-ecological phenomenon (Table 1).

In the following, we briefly elaborate how we experimentally ecologised each analytical level of epistemological abstraction.

In *empirical analysis*, 'empirical description based on observation, experience, recording or experiment ... [requires a process of] abstracting evidence from that which exists or occurs in the world' (James, 2006, p. 73). This means that the researcher constantly makes interpretive judgements, if not consciously, of what to include and not to include in his/her description (van Manen, 1990) even at this first analytical level of epistemological abstraction. There are probably more things that are not or cannot be mentioned in a language-driven description, and our ecologising effort at this level was focused on modestly acknowledging the limitations of description and non-representationally practising them as much as possible.

Table 1. Towards a socio-ecological theory of postcritical environmental education research via analytical levels of James's (2006) epistemological abstraction.

Empirical analysis involves 'generating empirical description based on observation, experience, recording or experiment' (p. 73). In the context of WWOOFers' nature experiences, the notions of both 'nature' and 'experience' are problematically complex, requiring descriptive interpretations of sensorially impressionistic tales of the *experiences of nature* (Pink, 2009; Van Maanen, 2011) and existential themes of the *nature of the WWOOFers' experiences* (van Manen, 1990). This level is ecophenomenologically crucial in order to ecologise James's systematic approach

Conjunctural analysis involves 'identifying and more importantly examining the intersection of various modes of practice' (p. 75) across production, exchange, communication, organisation and enquiry. At this level, based on the findings in empirical analysis, *practical and material relations* of WWOOFers' nature experiences were analysed with a focus on both social and environmental design of the WWOOF settings (Payne, 2014; adopted from Huebner, 1987). This level reveals sociological problems of WWOOFers' nature experiences

Integrational analysis involves an examination of 'the intersecting modes of social integration and differentiation' (p. 76), varying from the face-to-face to the disembodied. At this level, based on the findings of empirical and conjunctural analyses, *ecopedagogical relations* of WWOOFers' nature experiences were analysed with a focus on the moral distances between the WWOOFers and human/nonhuman others (Bauman, 1993). This level abstracts the sociological problems identified in conjunctural analysis into relational modes of WWOOFers' nature experiences

Categorical analysis involves an exploration of 'modes of being and the dominant forms that they take in different social formations' (James, 2006, p. 77). This analytical level is ontologically foundational, and thus culturally limited theorising of *WWOOFers' nature experiences* here requires ethically reflexive negotiation (pp. 308, 309). Jean Baudrillard's (1993) 'poststructuralist' (de)theorising was applied for the negotiation so as to un/re-know the studied social phenomenon through the Research Problem

We adopted two particular measures to ecologise empirical analysis. First, as already mentioned, the overarching RP of WWOOFers' nature experiences was ecophenomenologically disaggregated into the RQs of the experience of nature and the nature of experience (Toadvine, 2009), so as to explore their interrelationship. Second, in order to engage with the non-representational for RQ1, the WWOOFers' experiences of nature were sensorially (Pink, 2009) described into a sampling of ten short impressionistic tales (Van Maanen, 2011). The analytical focus for the tales was on how things in the WWOOF settings affectively interacted with the WWOOFers to generate their experiences together. Using Bruno Latour's (2005) terms, the things were understood as 'actants' that 'translated' the experiential 'network'. To do so, each tale aimed to capture a moment where a thing ecologically 'occurred' at hand with a Heideggerian sense of surprise and loss (Ingold, 2011, pp. 80–81). On the other hand, existential themes for the nature of the WWOOFers' experiences (RQ2) via van Manen's (1990) hermeneutic phenomenology largely remained in line with the representational priority of James's epistemological abstraction, by interpretively examining and coding perceived ontologies of space, time, body and relationality. In reflection, perhaps, a less anthropocentric theorist or methodologist should have been employed to better engage with RQ2 at this level of empirical analysis so as to emphasise a more modest and curious mode (un)knowing.

With *conjunctural analysis* and *integrational analysis*, we explored the relation of the WWOOFers' experiences of nature and the nature of the WWOOFers' experiences (RQ3), and we endeavoured to partly ecologise James's sociologically oriented analyses by incorporating the ecopedagogical notion of 'environmental design' (Payne, 2014; adopted from Huebner, 1987). The environmental design was used to analyse the WWOOFers' nature experiences as they also occurred spatio-temporally at micro, meso and macro modes of bodily interaction beyond language (Nakagawa, 2017b). The modes of environmental design were added to James's modes of (social) practice (i.e. production, exchange, communication, organisation and enquiry), together enabling us to consider modes of socio-ecological practices. Accordingly, the modes of social integration/differentiation were partly ecologised to encompass the moral distances between not only the WWOOFers and human others but also the WWOOFers and nonhuman others, applying Zygmunt Bauman (1993) relational categories indicated in his *Postmodern Ethics*.

Aiming for two specific goals, *categorical analysis* was modestly and responsibly conducted. First, the findings related to the three disaggregated RQs were re-aggregated in order to offer responsibly conceptual and empirical insights into the overarching RP of WWOOFers' nature experiences in a synthetic manner. Second, the RP was modestly (de)theorised by selectively applying Jean Baudrillard's

(1993) *Symbolic Exchange and Death* to consider possible strategies to 'ex-term-inate' the problematic categories of 'nature' and 'experience'. Our effort to ecologise James's categorical analysis corresponds with the second purpose.

Baudrillard's radical social theory of simulation/simulacra offers a means not only to theorise nature as a term, but also to detheorise it simultaneously as a limited human construct—thus (de)theorising. The detheorising of WWOOFers' nature experiences at the final level of categorical analysis may appear paradoxical. However, if human theorising as a rupture is temporary, such theory also needs to address its limited finitude by revealing its implosive momentum (Baudrillard, 2007). This postcritically simultaneous (de)theorising via Baudrillard curiously echoes with what James (2006) called 'an ethic of foundations' (pp. 308, 309) where reflexive negotiation is always required for theorising as a culturally limited human practice grounded within the ontological conditions of the continuum (to which we cannot access directly).

To summarise, when Toadvine's ecophenomenology and James's constitutive abstraction thesis (particularly its key element of epistemological abstraction) are combined methodologically, they together offer a valuable signpost for a postcritical methodological framing for postrepresentational educational inquiry. This (meta-) methodological framing was useful for us to engage with Philippopoulos-Mihalopoulos's epistemologies of doubt and its ethical derivatives of modesty and responsibility in the context of the WWOOF ethnographic study. To be sure, James's lingering anthropocentrism requires supplementation in the way we have described, so as to more confidently but still modestly arrive at a categorical explanation of the Anthropocene knowledge ecology, with an eye to the practices of environmentalised education. The contextualised example here was WWOOFers' nature experiences for possible environmental learning, but the postcritical methodological framing may be applied to other philosophically complex social phenomena in other fields of educational inquiry.

Conclusion

How can we engage with the complex realities of the Anthropocene knowledge ecology? In this experimental study, we suggested that complex realities of the Anthropocene may require a postcritical methodological framing with the logic of both/and. There were various onto-epistemologically inseparable sets of both/and explicitly and implicitly mentioned in this study, but the most important ones are modesty and responsibility, and non-representation and representation. We are particularly interested in ethico-methodologically bringing human responsibility and representation back into the Anthropocene knowledge ecology, while acknowledging the equal importance of human modesty and non-representation.

If representation still matters in research, and we believe it does, it is not in the way that it simply rehearses human-centred and researcher-centred qualitative research methods (Jackson & Mazzei, 2013; St. Pierre, 2013; Weaver & Snaza, 2017). Representation needs to be postcritically modified as postrepresentation, mirroring the complex and paradoxical interrelationship of the Anthropocene knowledge ecology. Practising postrepresentation is not straightforward and can be onerous. Thus, based on our first-hand experience/experiment in the introduced ethnographic study of WWOOFers' nature experiences, we recommend a carefully designed and ecologised (meta-) methodological framing to guide the philosophical endeavour. To clarify, we are not suggesting that the methodological framing with Toadvine and James should be methodically rehearsed. Rather, we hope that it provides a postcritically experimental momentum in educational inquiry where methodology is philosophically revitalised as a modest yet responsible agent for the Anthropocene knowledge ecology.

In reflection, in practising postrepresentation by referring to the postcritical methodological framing, we nonetheless experienced the difficulty of the balance between non-representation and representation in our analysis. The ecologically preferred balance of postrepresentation requires further attention in the methodological and theoretical domains in educational inquiry.

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Notes on contributors

Yoshifumi Nakagawa works in the Faculty of Education at Monash University and recently studied Willing Workers on Organic Farms (WWOOF) and its participants' nature experiences using a sociological focus. The author's research interests include nature–human relations in informal environmental education including ecotourism, postcritical qualitative research methodology and Jean Baudrillard's social theory.

Phillip G. Payne is an adjunct professor at Monash University and specialises in the environmental aesthetics, ethics, and ecopolitics of education and its research. He is the Editor of Special Issues of *The Journal of Environmental Education*.

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