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## Chapter Three

### The socioecological (un)learner: *Unlearning binary oppositions and the wicked problems of the Anthropocene*

Adam, R., Whitehouse, H., Stevenson, R. B., & Chigeza, P.

#### Abstract

The purpose of this chapter is to justify, theorise and contextualise a way to *unlearn* the binary oppositions of the Anthropocene (e.g. nature<culture). We define *unlearning* as a disassembling part of the whole of learning involving the realisation and removal of deep commitments to obsolescent learnings. We justify unlearning the binary oppositions of the Anthropocene on the premise that they have failed to represent the genuinely wicked problems of being human. We theorise the unlearning of binary oppositions with a form of *monistic dualism*, which simultaneously represents the division and unification of ‘opposites’. Finally, we contextualise the unlearning of binary oppositions in relation to the wicked problems of the Anthropocene, including sustainability, education and globalisation. The authors’ hope is that this way of unlearning binary oppositions may help diversify the community of socioecological learners who recognise, and respond to, the Anthropocene.

**Keywords:** *Unlearning, binary opposition, monistic dualism, socioecological, nature/culture, Anthropocene, Posthumanism, wicked problems*

#### Introduction

Are ancient Greek philosophers, medieval theologians, and contemporary metaphysicians going to keep Bangladesh from being inundated by rising oceans? Of course not. (Scranton, 2014, p. 234)

For many **socioecological** learners, the recognition of a new geological epoch of human influence – the **Anthropocene** – would provide impetus to move on in the grand scale of geological time. So, where to from here? The question evokes more ultimate questions, including ‘What does it mean to be human?’ and ‘How are we to live?’. The many answers and contexts to these questions create and reflect some of our most **wicked problems** (e.g. sustainability, education, globalisation). These problems, like the rising oceans, have metaphysical and scientific dimensions.

There is a mounting body of empirical evidence for the **Anthropocene**. For example, the **Anthropocene** Working Group (AWG) (Zalasiewicz et al., 2017) reports,

The group identified a number of changes to the Earth System that characterize the geological **Anthropocene**. These include: marked acceleration of rates of erosion and sedimentation; large-scale chemical perturbations to the cycles of carbon, nitrogen, phosphorus and other elements; the inception of significant change in global climate and sea level; and biotic changes including unprecedented levels of species invasions across the Earth. Many of these changes are geologically long-lasting, and some are effectively irreversible. (p. 56)

The biological and geological evidence of human activity suggests that we somehow learned a relationship between the social and the ecological that threatens the survival of both.

How do we unlearn the Anthropocentric relationship between the social and the ecological to know the possibilities for *being human* differently? **Unlearning** is, of course, just another form of learning. However, **unlearning** highlights the often painful discovery and undoing of

past learnings and deep commitments, that is often required to learn something new. **Unlearning** the metaphysics of the **Anthropocene** may help us to consider the possibilities of a **posthuman** (Braidotti, 2017; Haraway, 1991; Hayles, 1999; Graham, 2002) future, with more clarity and caution. The **posthuman**, as defined and defended by Braidotti (2017), is essentially a “critique of the humanist ideal of Man as the allegedly universal measure of all things, on the one hand, and the rejection of species hierarchy and human exceptionalism, on the other” (p. 11). What metaphysics reside in the posthuman critique? Badminton (2003) cautions that **posthumanism** may find it difficult and possibly undesirable to fully escape: “the distinctly humanist matrix of Cartesian dualism” (p. 11) that permeates the **Anthropocene**. There is a metaphysical dimension to the empirical evidence for the **Anthropocene** that needs **unlearning**. There are Cartesian ontologies and epistemologies hidden within the ‘large-scale chemical perturbations’, ‘global climate inceptions’ and ‘species invasions’ (Zalasiewicz et al., 2017) of our geological epoch. The community of **socioecological** learners needs scientists *and* ‘contemporary metaphysicians’ to address the different dimensions, scales and degrees of the ‘same’ Anthropocentric problem that we seem to have learned our way into. **Unlearning** the Cartesian metaphysic of the **Anthropocene** more fully and deeply, may offer some new paths, and even some old ones.

Arguably, the **Anthropocene** reflects a failure to recognise the **wicked problem** of being human. ‘**Wicked problems**’ (Rittel & Webber, 1973) have no definitive formulation that can contain all significant variables and yet we must live out our formulations and their consequences, regardless. Some of the **socioecological** problems of the **Anthropocene** (e.g. sustainability, education and globalisation) have been described as ‘super-**wicked problems**’. Levin, Cashore, Bernstein, & Auld (2012) characterise super-**wicked problems** by: (i) the urgency of the problem; (ii) the causal culpability of those who have the power to seek a

solution; (iii) the lack of a centralised body to find and implement solutions; and (iv) the short-term constraints on long-term solutions. But there is another dimension to the problems that makes them ‘wicked’. Dorst (2006, 2015) and Adam (2016) observe that **wicked problems** emerge from core paradoxes (e.g. nature>=<culture) and are exacerbated by exclusively **binary oppositional** formulations (e.g. culture>nature or nature>culture). Whilst the **wicked problems** of the **Anthropocene** cannot be ‘solved’ per se, they may be *tamed* or recurrently (*re*)*solved* in context. This chapter proposes a ‘taming’ metaphysic (i.e. **monistic dualism**) that recognises human *being* as a **wicked problem** and helps us to unlearn the **binary oppositional** excesses of the **Anthropocene**. Our general approach is that a **monistic dualism** can help us to recognise and unlearn the **binary oppositional** excesses of the **Anthropocene** in a way that does not simply reverse these oppositions and exacerbate a different set of problems.

We ask *how* the **binary oppositions** of the **Anthropocene** (i.e. nature<culture, mind>body, male>female, local<global, living>non-living, human>non-human, conservation<development) became the learned answers to our ultimate questions. As Bourdieu (1977) reminds us, we can learn subtly ‘by the hidden persuasion of an implicit pedagogy, capable of instilling a whole cosmology, an ethic, a metaphysic, a political philosophy, through injunctions as insignificant as “stand up straight” or “don’t hold your knife in your left hand”’ (p. 94). The spectre of the **Anthropocene** encourages us to unlearn its dominant ways of knowing and being - to hold them closer for inspection and reimagination - so that we may choose more consciously to keep them, or to let them go, without losing ourselves.

Summarily, the purpose of this chapter is to explore and encourage the **unlearning** of **socioecological** dualisms that have defined the **Anthropocene**, and this, so that we may learn our roles within, and responses to, its **wicked problems** more selectively and purposefully from a broader range of choices. To this end we justify the **unlearning** of **binary oppositions** on the premise that they exacerbate the genuinely **wicked problems** of the **Anthropocene**. We theorise this **unlearning** with a form of **monistic dualism** that stops us tearing ourselves apart in the ways of the **Anthropocene** or losing ourselves altogether as we contemplate a *posthuman* future. Finally, we contextualise this **unlearning** in relation to the wicked **socioecological** problems of the **Anthropocene** (e.g. sustainability education and globalisation).

### **Learning in the Anthropocene**

The term **Anthropocene** has various scientific, social and cultural meanings, but is popularly used to describe the scale of human interference and domination of the Earth system as a whole. More literally, the **Anthropocene** describes the global scale of human influence on the planet, regardless of the moral evaluation of that influence. However, as Castree (2016) notes, “more than the concept of global warming, the **Anthropocene** is provocative because it implies that our current way of life, especially in wealthy parts of the world, is utterly unsustainable” (np.). If we treat the **Anthropocene** as a signalling social concept, and as a lexicon for understanding our place in planetary history at what seems to be a pivotal juncture, it becomes useful for discussions on **socioecological** learning and **unlearning**. The ‘pivotal juncture’ of the **Anthropocene** describes the growing realisation of the extent of human influence on the planet. We are coming (or need to come), to the paradoxical realisation of the Pyrrhic victory of the **Anthropocene** – the defeat of nature was self-defeating.

The conceptualisation of **socioecological** learning in and beyond the **Anthropocene**, presents a particularly challenging task, given that education *and* sustainability have been characterised as **wicked problems** (e.g. Borko, Whitcomb, & Liston, 2009; Blok, Gremmen, & Wesselink 2016; Incropera, 2015; Sun & Yang, 2016). Education represents a **super-wicked problem** in the context of the **Anthropocene**. Considered in terms of Levin et al.'s (2012) criteria for a super-**wicked problem**, formal education needs urgent restructuring to be more responsive to rapid social and environmental changes; the existing structure and products of formal education have been complicit in the very production of these social and environmental conditions; formal education is a necessarily contested space that lacks a way to effect change; and educational systems are often bound to political systems, which encourage self-serving and short-term sensitivities.

So, what does it mean to educate in an **Anthropocene** defined by **socioecological** problems that we have learned into existence? The characteristics of **wicked problems**, as already described, also have implications for learning and learners. For example, inquiry approaches to wicked **socioecological** problems need to reposition science and ecology ontologically and epistemologically by engaging and reflecting on “the full spectrum of ways of knowing and being” (Adam, 2016, p. 210), including the imaginative, intuitive, creative and emotive. Learning approaches to these problems should encourage learners to engage collaboratively in deliberate, systematic, critical and deeply reflexive knowledge-building, as well as intuitive and creative thinking, in order to stimulate the emergence of ‘transformative disruptions’ of existing unsustainable patterns, routines or systems. Learners need to be treated as co-constructors of knowledge in a collaborative and emergent learning process that creates shared ownership of both our current unsustainable ways of thinking and living and

our responsibility for and the necessity to contribute to more sustainable, just and flourishing ways of knowing and being.

Educators are turning their attention to the problems of educating in times of very rapid environmental change and very large disturbances in the Earth's atmosphere. Somehow, we have learned our way to this point and somehow we must unlearn, to know a different way of being and knowing in-relation to each other and the cosmos. These are grand thoughts, but times of crisis often force us to see how we have lived the answers to our biggest questions in the smallest ways, and to wonder anew if this is truly how we wish to live and learn. Is formal education serving, representing and preparing children and young people adequately or enough for the scale of future changes and **wicked problems** they will face? To this question we can add, 'What does it mean to learn?' The **Anthropocene** means that the focus of education systems themselves, for the sake of our own survival will have to transform as a matter of great urgency. This is such a huge challenge for traditional, formal education and for educators, for we have found ourselves caught within a cascade of tipping points that threaten to decentre us from ourselves, forcing us to ask more collectively than before: 'Who are we?' and 'How are we to live?'

The work of educators is to now apply educational thinking to the task of living in the **Anthropocene** and to the post-**Anthropocene**. We actually have little choice in this matter. Either we change and transform, or we are looking at a very unhappy and, to be honest, frightening future. We have to reverse the current collapse of biodiversity working at all scales, from local to large scale to protect everything from forests, swamps and pollinators, to apex predators. We have to clear our oceans of plastic, cease and remediate pollution, and transform our social, economic, political and cultural practices to build a partnership and an



ethics of care for an Earth we share. Such tasks require much *unlearning* to clear the ground for different directions and new choices.

### **Unlearning in the Anthropocene**

We often must unlearn before we can relearn and/or learn anew (Cegarra-Navarro, Eldridge, & Martinez-Martinez, 2010). Arguably, **unlearning** is a neglected part of learning because it lies hidden within it (Antonacopoulou, 2009). **Unlearning** is part of a whole – a whole that is often conflated with an ‘opposing’ half. Whereas learning takes on normative associations with accumulating, assembling and constructing – **unlearning** emphasises the co-necessity of discarding, disassembling and deconstructing. Thus, in dialectical terms – **unlearning** is the disassembling half of the whole of learning, where the whole is normatively conflated with its other half, that is, learning as assembling. Perhaps due to this normativity, **unlearning** is one of the more valuable but less cited skills of a modern learner. Dominant pedagogical discourse is characterised by metaphors of building, adding and creating. Teachers are used to *building* on prior learning, assessing the *accumulation* of knowledge, and *constructing* meaning. However, **unlearning** emphasises the implicit destruction in learning as building. It asks: What did we destroy in order to build? What hole did we dig to raise this mountain? What mountain did we raze to fill this hole?

Some of the most difficult things to unlearn can be things we do not know we have learned because we have never had to consider alternatives. **Unlearning** can be an ontologically and epistemologically difficult task, involving radical disruptions of cultural and cognitive assumptions and commitments to prior learnings. The cost can be high and the time too short. However, **unlearning** need not be unnecessarily and indiscriminately destructive if it is embraced as a normative dimension of learning, more than an afterthought. The **unlearning** of

learning inspires a playfully disruptive, even a *dark pedagogy* that paradoxically clears the ground for new learnings and brings innovations to light. Baldacchino (2012) expresses a similar sentiment in the context of **unlearning** in the arts: “This peculiar ‘movement’ from a state of learning to that of **unlearning** constitutes the basis for a special kind of pedagogical aesthetics where the challenges of criticality and laterality articulate a special ‘world’ where learning may well work backwards” (p. 415). If we do not acknowledge the implicit **unlearning** of learning (and vice-versa), we risk reinforcing processes and accumulating contents that *will* fail in unnecessarily destructive ways. If we can take apart our learning effectively, we can put these parts back together in different ways, add to them, take from them, or simply reinforce existing learnings with a greater understanding of their function, and a stronger commitment to their value.

As suggested from the outset, our ability to unlearn is of great importance in an age where some of our past learnings - which may (or may not) have served us well - now seem to have their limits, tipping points and turning points. These limits draw the line between the spectre and the promise of the **Anthropocene**. We are now witness to our inability to live and learn within such limits, especially *shifting* limits. Arguably, what we are witnessing in this topsy-turvy world is a sort of **socioecological enantiodromia**, where progress becomes regress, self-preservation becomes self-harm, development becomes decay, and creation becomes extinction. The human transgression of limits is nothing new, however, the sheer scale of these transgressions, as recognised in the coining of the **Anthropocene**, surely has no precedent.

How can **socioecological** (un)learners make sense of these transgressions? Greta Gaard (2011) argues that what is needed now, to address the climate emergency and the many

problems of the **Anthropocene**, is an intersectional approach which “frames these issues [problems] in such a way that people can recognize common cause across the boundaries of race, class, gender, sexuality, species, age, ability, nation—and affords a basis for engaged theory, education, and activism” (p. 44). This search for common causes and frames of reference may well involve the more revolutionary forms of **unlearning** - the destruction of idols, the shattering of images, and tearful unravellings. The search pushes us more deeply into our-selves and, somewhat disconcertingly, beyond them. Admittedly, *destroying*, *shattering* and *unravelling* are the more violent and revolutionary acts of **unlearning**. Revolutionary **unlearning** may be a proportionate response to the insidiously ‘peaceful’ learning that builds of towers of Babel to invisible gods. However, **unlearning** can be softer, kinder, more playful and compassionate, though just as powerful, as its revolutionary forms. But it must be taken seriously from the start of learning, and at key junctures of learning along the way. This sort of **unlearning** asks, ‘What is our learning?’, ‘Where did we learn our way from?’, ‘Where are we learning our way to?’ and ‘Do we still want to learn this way?’ This is not a paralysing call for doubt and uncertainty; it is a gentle reminder that reflexive time to self-doubt, self-question, and consider alternatives along the way, may cost us less than living immutable answers beyond contextual questions. **Unlearning** may be the one step back that repositions us to take two steps forward.

### **Monistic dualism and the Anthropocene**

So far, this chapter has attempted to elucidate and connect some core concepts (i.e. ***Anthropocene, wicked problems, unlearning, binary oppositions***) to make a general case for their significance to **socioecological** learners. Educators have the unenviable task of representing and communicating these problems simply, without neglecting their complexity.

To this end, this section introduces a more formal philosophy (i.e. **monistic dualism**) and a heuristic model for **unlearning** the **binary oppositions** of the **Anthropocene**.

**Monistic dualism** (or dualistic monism) is a metaphysical position that recognises: (i) the unity of all things, (ii) the implicit plurality in the realisation of unity, and (iii) the implicit duality in the realisation of plurality. Translated into the relationship between the social (culture) and the ecological (nature): (i) there is a unity of nature and culture, (ii) this unity implies a plurality of expressions and degrees of difference between nature and culture, and (iii) this plurality implies a duality between nature and culture.

It is worth acknowledging that **monistic dualism** has been used elsewhere, either explicitly (e.g. Bosworth, 2014) or implicitly (e.g. Reich, 2002), to frame complex social problems. It represents a metaphysical stance that can accommodate and coordinate multiple paradigms in-relation and in-context. **Monistic dualism** recognises the intractability of dualism, for as Gould (1997) observes:

The human mind seems to work as a categorising device (perhaps even, as many French structuralists argue, as a dichotomizing machine, constantly partitioning the world into dualities of raw and cooked [nature vs. culture], male and female, material and spiritual, and so forth). (p. 39)

However, it reveals dualism's implicit monism and pluralism to expose the truer impostor – **the binary opposition**. The **binary opposition** is really a premature monism – an assertion that a part *is* the whole, or at the very least, wholly superior to all other parts.

As previously quoted, Bourdieu's illustratively metaphysical injunctions - 'stand up straight' and 'don't hold your knife in your left hand' - offer a dyadic clue as to how we might begin to unlearn the Anthropocentric relationship with nature. The injunction to stand invokes the possibility of sitting. The injunction to be straight invokes the possibility of being crooked. And, the injunction not to use the left hand invokes the possibility of not using the right hand. Herein lies a formulation that may help us to frame the **binary oppositional** excesses of the **Anthropocene**. **Unlearning** for the **wicked problems** of the **Anthropocene** requires a reimagining and reconfiguring of established discursive dyads, more commonly but somewhat deceptively known as *dualisms*.

Table 1 lists common dyads that populate **socioecological** discourse and give us an insight into the **wicked problems** we face. The list is adapted from Adam's (2016) collection of dyads in **socioecological** literature. It reveals how central they are to the ways we think and know about ourselves, for these dualisms create and reflect the category tropes of otherness that are so central to our social identity in a natural world.

Table 1.

*Examples of Dyads in **Socioecological** Discourse*

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- Nature/Culture	- Nature/Society
- Ecological/Social	- Environment/Organism
- Practice/Theory	- Intuitive/Rational
- Value/Fact	- Ecological/Technological
- Body/Mind	- Organic/Technical
- Emotion/Reason	- Abstract/Concrete
- Spirit/Earth	- Lateral/Hierarchical
- Chaos/Order	- Mythical/Logical
- Spontaneity/ Control	- Public/Private
- Metaphorical/Literal	- Urban/Rural
- Male/Female	- Subjective/Objective
- Darkness/Light	- Specific/Totalised
- Active/Passive	- Unity/Diversity
- Traditional/Progressive	- Organic/Mechanistic
- Fluctuations/Permanence	- Qualitative/Quantitative
- Dependent/Independent	- Holistic/Reductionist
- Soft/Hard	- Social/Individual

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What is evident from this list is that **socioecological** problems are deeply connected to more general ontological and epistemological problems. What are we to do with the dyads we have learned? Haila (2000) offers one response, aiming to clear the ground for science by clearing the ground of dualism: “The common denominator of all the varieties is that culture and nature are opposite sides in a dualism. The culture-nature dualism is ultimately harmful and should be challenged” (p. 155). However, there are different ways of conceptualising and

accommodating dualism. We argue for its accommodation in a form of **monistic dualism** or dualistic monism, rather than its extinction. Here, dualities are polarities that signal degrees of difference and express the most salient concerns of existence. They are the hands of bilateral symmetries that can be spread wide to indicate the expanding universe or brought close to hold a grain of sand - and everything between. **Binary oppositions** represent much less. They represent an imposition of the one on the many and an inflation of a part on the whole.

Perhaps the key to **unlearning** the **binary oppositions** of the **Anthropocene** is to begin in our imaginations at the opposite ends of our positions and practices, and then to build, by degrees of difference, a bridge back to where we stand. By analogy, we may do well to *sit* a while to understand our *standing* and hold our knives in our *left* hands for a time to know what is *right*. Only then can we appreciate if and where we stand, which hand to use, and whether to continue in these ways of knowing and being at all.

The **unlearning** of a **binary opposition** can begin by affirming why it was learned in the first place, and that it may well be important to learn it again. We do well to remember that the culture>nature meme that has ruled the **Anthropocene**, may have origins as humble and practical as the swatting of a mosquito associated with sickness, the breaking of a branch for shelter, the lighting of a fire against the cold of night, or the starvation-induced eating of a rodent that had died a natural death. It can be too easy to extoll the benevolence of nature and lament the malevolence of culture from the relative safety of our concrete caves. One side (i.e. nature>culture) forgets where we came from. The other side (i.e. culture>nature) ignores where we are. Both 'sides' forget the sense in which they are contiguously connected and singularly united.

**Unlearning** may help us to keep our understandings of the **Anthropocene** more dexterous and responsive than they would otherwise be. Yes, we need to unlearn the Anthropocentric privileging of culture, masculinity, matter and mind – but we would have failed as educators if future **socioecological** learners beyond the **Anthropocene** are defined by a reactive privileging of nature, femininity, spirit and body. We would have failed too, if learning after the **Anthropocene** was blindly dominated by some static middle position, an ineffable union, paralysing negation or chaotic multiplication of nature and culture. And yet a priori, and in relation, all of these positions are of value and help us to know and to be, in and of, the world. This is no simple ‘hedging of bets’ – it is a laying open of abstract possibilities from which to make real choices in changing contexts. As such, we now turn our attention to a more formal model of **monistic dualism** to assist **unlearning** by a ‘laying open’ of possibilities.

### **A heuristic model for **unlearning** **binary oppositions****

There is a need for new models, modes of thinking, and ways of knowing to comprehend the relationship between the social and the ecological in an Anthropocentric epoch characterised by **wicked problems** of unprecedented scale. As Gardner (2004) enumerates, modern learners require:

1. Understanding of the global system
2. Capacity to think analytically and creatively within disciplines
3. Ability to tackle problems and issues that do not respect disciplinary boundaries
4. Knowledge of and ability to interact civilly and productively with individuals from quite different cultural backgrounds – both within one’s own society and across the planet



5. Knowledge of and respect for one's own cultural tradition(s)
6. Fostering of hybrid or blended identities
7. Fostering of tolerance. (p. 253-255)

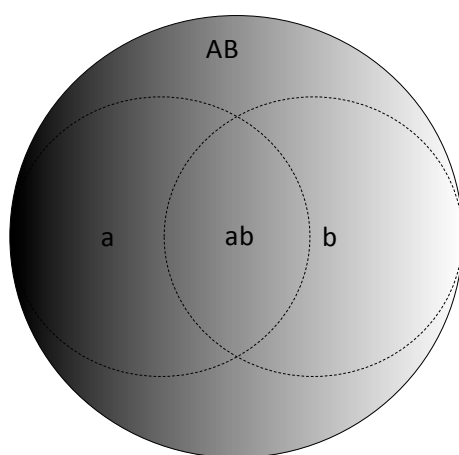
Arguably, the need for such learner abilities is as old as culture, its conceptualisation of nature, and the meeting of its tribes. However, the scale, frequency and consequences of the meeting of tribes in the **Anthropocene** - with each other and with nature writ large – reminds us of their value at this time.

The abilities will need to be fostered with new scaffolds, theories, models and metaphors. Such models will be co-constructed by learners and teachers who recognise the paradoxical unity and duality of learning and teaching. These models could also help move the pedagogical dialogue beyond polemic and opposition (e.g. traditional vs. progressive, positivist vs. interpretivist, teacher-centred vs. learner centred) without diluting real and important differences (Adam & Chigeza, 2014). More so, as Ross-Holst (2004) argues:

What educators and policy makers need are models that can more readily take advantage of the challenges and opportunities offered by globalization . . . These new opportunities suggest to me that educators are more relevant to the project of education than ever before: to scaffold new ways of knowing; to help children and youth reach higher levels of understanding, and to guide students to achieving greater appreciation for cultural complexity and diversity. (p. x)

This is a significant and ongoing challenge, as such models must be simultaneously simple for communicability but able to generate and represent immense complexity.

At first glance, the heuristic model proposed in this section (Figure 1) is easily recognised as ‘bi-relational’ (Adam, 2016) or dualistic, that is, it represents relations between two constituents (e.g. A/B). However, closer inspection will show that this *duality* only makes sense in relation to concepts of *negation*, *unity*, *synthesis*, and *multiplicity*. Thus, the model simultaneously represents nihilistic, monadic, dyadic, triadic and multiplistic ways of knowing. It represents a dualistic monism or a **monistic dualism**. It is a model that encourages us to unlearn our learnings and see them in relation to other learnings on grander scales - so that we may better locate and understand our positions in-context and on smaller scales. More specifically, the model encourages us to identify the salient dyads (e.g. social/ecological, **nature/culture**) that reside in our **wicked problems**; to imagine the possible relationships between them in order to know what relationships we have learned; and to identify the most probable relationships that will help us to (re)solve our **wicked problems** in the contexts they arise.




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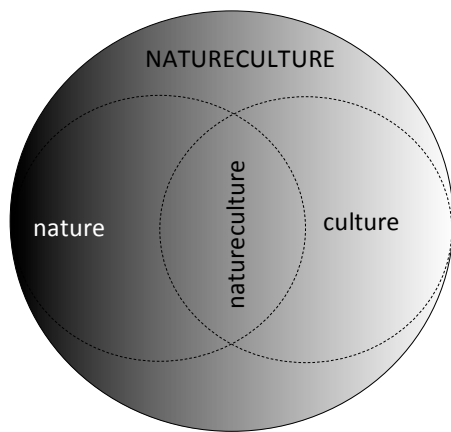
Archetypal Axioms

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1. A is B
  2. a is part of AB
  3. b is part of AB
  4. ab is part of AB
  5. a is not b
  6. b is not a
  7. a is not ab
  8. b is not ab
-

Figure 1. A heuristic model for **unlearning** and learning dualisms. This model represents dualism as a relational and contextual way of knowing.

Consider the **nature/culture** dualism in relation to the model (Figure 2). As **socioecological** learners we have life experiences that construct subjective or necessarily partial understandings of nature and culture. One person's or group's experience of *nature* may be more 'red in tooth and claw' or 'snips and snails and puppy-dogs' tails'. Another person's or group's experience of *nature* may be more 'green in thumb' or 'sugar and spice and everything nice'. Tipping the constructs from both experiences into one bucket is a difficult logical and semantic task.




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Archetypal Axioms

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1. NATURE is CULTURE
  2. nature is part of NATURECULTURE
  3. culture is part of NATURECULTURE
  4. natureculture is part of NATURECULTURE
  5. nature is not culture
  6. culture is not nature
  7. nature is not natureculture
  8. culture is not natureculture
- 

Figure 2. A heuristic model for **unlearning** and learning **nature/culture** dualisms.

A key premise of the model is that **socioecological problems** are, in part, made **wicked** by their semantic complexity, their hidden relationality, and their logical trickiness. There is a deception to discussion that arises from the problem that a word may not only mean many things but may encompass a lesser or greater number of things. This is particularly tricky when discussing grand constructs like *nature* and *culture*. The task requires a sort of relational and contextual logic (Reich, 2002) or bi-relational knowing (Adam, 2016) that can move dexterously between a priori and a posteriori, general and particular, concrete and abstract, and subjective and objective ways of using the ‘same’ words. To this end we use upper and lower-case forms of the same letter (i.e. aA, bB) to denote similarity and difference between part and whole. **Unlearning** and relearning dualisms relies on a logic that can contain, but not be exclusively constrained by binary logic (e.g. nature vs. culture). Such a logic represents a metaphysical approach to understanding the possible and probable relationships between the constituents of **socioecological** dyads. It is a logic that allows us to see commensurability *through* conflict between the archetypal positions.

Perhaps the most common understanding of dualism denotes a separation and disconnection between dyadic constituents, for example, the separation of *mind* and *body* in Cartesian dualism. This separation enables another common understanding - that dualism is synonymous with **binary opposition**, where the naming of two separate entities is seen to denote a conflict between them and a preclusion of degrees of connection and complementarity between them. The confusion concerning dualism stems from its seemingly contradictory relation to monism. Are we many or are we one? While a nuanced philosophical discussion of this question is beyond the chapter’s immediate scope, it is important to note that its approach to **socioecological** dualisms is based on the premise that

without them we cannot recognise monisms, and without monisms we cannot think about dualisms. We are one and we are many. *Two* is the most basic division that reveals this paradox. We are irreducibly **nature/culture** and *natureculture*. Educators need models and metaphors that help us to unlearn ourselves in relation to others, including non-human others.

**Unlearning** does not have to begin and end with the destruction of **socioecological** dualisms like **nature/culture**. The irony of exclusively monistic approaches to the **nature/culture** problem is that they rely on an implicit dualism. Oneness is meaningless without the divisions it seeks to reconcile, such that dualism too, is an inescapable structure of thinking and acting. So long as we seek to know, dualism will raise its wings from the ashes of its negations or split the atom of its unions. However, dualism only exists in-relation to these negations and unions – “the human mind must overlook unity once we begin thinking at all . . . we must re-discover it if we continue thinking clearly enough and long enough” (Wilson as cited in Scarfalloto, 2003, p. xiii). Lovejoy’s (1930) early defence of dualism is still worth quoting here:

[T]he way of thinking so named by philosophers [i.e. *dualism*] is no accidental or artificial product of seventeenth-century metaphysics, no sophistication of speculative minds; it is simply the account which man, grown capable of holding a number of facts together in a single view and drawing what seem plain inferences from them, will normally give of the situation in which he finds himself when he is engaged in what he calls ‘knowing’. From these roots the same conclusions would, in all probability grow again, though Descartes were not only dethroned but forgotten. (p. 24)

And yet, the gendered nature of this defence (i.e. *he, man, his*) also cautions us as to how easily one side of a duality may come to dominate and subordinate another (i.e. male>female) with the illusion of its totality. The **Anthropocene** can almost be defined by such dominations including nature<culture, social>ecological, mind>body, cognitive>affective, and intuitive<rational. In beginning to restore a less one-sided totality – often recognised as *monism* – it is worth noting that many of these dominations were reversed in the pre-**Anthropocene**. The challenge for educators of the post-**Anthropocene** is to stop swinging pendulums and start coordinating hands and minds.

### **Unlearning the socioecological dualisms of the Anthropocene**

There is a place for educators to gently and playfully disrupt **binary oppositions**. Naive dualisms create categories of opposition (the ‘us and them’ over there) that suppress rather than signal the degrees of difference and interpenetration between them. Their categories of value opposition (e.g. white>black, good>evil, beautiful>ugly, civilised>primitive, advanced>backward, coloniser>colonised) create a relation of dominance wherever there is difference. Naive dualisms create hierarchies out of the ways different groups make sense of the world, regardless of their contexts. The chapter’s general approach aligns with others (e.g. Reich, 2002; Adam, 2016; Adam & Chigeza, 2014) who argue for a way of knowing and learning about the polarities of a dyad that evaluates their strengths and weaknesses in context; acknowledges their relationality and interdependence; and acknowledges the degrees of difference and continuity that connect them.

**Unlearning** is a necessary part of this challenge to better coordinate the seemingly irreducible two hands of the human mind that generate **socioecological** dyads. It is not the only part but it

can help us to recognise what we have learned and where this learning is positioned in relation to the possibilities at, and between, the poles. It does not destroy the poles of dualism or deny the sense in which they are one, rather, it reverses, squeezes and expands them to point out the possibilities between them and confront us with the choices we have made, the positions we have taken, and the learnings we have learned. **Unlearning socioecological dualisms** pushes us into wonderful and terrible places. It can clear us from the clutter of ourselves, make us one, pair us together, join us in the middle, or multiply us. However, it can also annihilate us, squash us into a corner, tear us in two, trap us in a third space, and shatter us into infinite pieces. These are the seemingly contradictory possibilities for the post-**Anthropocene** after an age of tearing ourselves in two.

The essence of this chapter reflects Adorno's (1993) view of dualism as a construct for contemplative learning where, "contradiction itself—the contradiction between the fixed concept and the concept in motion—becomes the agent of philosophizing" (p. 70). Arguably, learners are most free when they can dexterously coordinate the two hands of philosophical dualisms to work, play and even constructively wrestle, in the infinite divisions between them. This play will give us time and cause to wonder what learnings lie beyond their reach, and what unity of origin and purpose they may serve, if any. This recognition of opposition and engagement with division can lead to deeper understanding, or at least, better management of conflict and difference. Such an approach is characterised by a dexterity that can evaluate and coordinate the constituents of a duality, with a sensitivity to context and their relationality. This coordination is appreciative of the relational equality of the **socioecological** dualisms of the **Anthropocene** but recognises that context can demand particular choices that can change over time for the most effective **unlearning** or learning. Such an approach is conscious of the abstract paradoxes between the **socioecological**

dualisms of the **Anthropocene**; and yet it is informed rather than paralysed by them, in contexts that require real choices and actions.

The heuristic model represents a metaphysical stance that emphasises the *contiguity*, *relationality* and *contextuality* of dualisms. Here, **unlearning** through *contiguity* highlights degrees of difference (i.e. shades of grey) to counter the disconnection that encourages **binary oppositional** learning. **Unlearning** through *relationality* highlights the interdependence and co-sensitivity of positions. It reveals the multiplicity of relationships that can exist between polarities (e.g. negation, unity, dualism, synthesis, multiplicity). **Unlearning** through *contextuality* reveals the timeliness and placefulness of **binary oppositional** learning to question its place and relevance in new or expanded contexts. Pedagogies and resources that embrace these principles can help us to unlearn the dominant **binary oppositional** dualisms of the **Anthropocene** (and avoid their superficial reversals) by revealing new ways of relating old constituents. Used wisely, these pedagogies and resources can playfully disrupt our learned and taken-for-granted dualisms, by raising our awareness of them.

### *Contiguity*

**Socioecological** (un)learners can also disrupt **binary oppositions** with examples that reveal contiguity between polarised constituents of a dyad. In terms of the heuristic model (see Figure 1) this disruption is akin to incrementally expanding and merging the two circles (i.e. ‘a’ and ‘b’) to create a third category (i.e. ‘ab’), and eventually a more differentiated continuum or spectrum altogether that is served, rather than obfuscated by, dichotomising categorisations.



Sowards' (2006) analysis of Orangutans as a symbol for complicating the nature/culture dichotomisation is one example of a resource for unlearning binary gaps by learning contiguity.

Orangutans, an endangered species found in Indonesia and Malaysia, enable individuals to bridge, connect, and identify with a seemingly separate natural world. Through identification with orangutans, humans come to reevaluate their own perspectives and dichotomous ways of thinking about their relationships with nature . . . . Ultimately, orangutans are an effective rhetorical metaphor for bridging nature/culture dualisms by representing the natural world from which we have become rhetorically separated (pp. 45-46).

Experiential pedagogies coupled with reflections on experience can help us to see a continuity between humans and Orangutans that challenges the extent of the divorce of our human selves from the rest of nature. We will struggle to unlearn our dichotomisations if we do not have concrete experiences of what lies between them and time to reflect on these experiences abstractly to understand how they might contribute to our views of the world. However, the very plight of these Orangutans as well as the conflicts within our own species suggests that the recognition of continuity and close proximity is not enough when we are grouped together in cages with finite resources. Contiguities can still be learned and formulated as hierarchical 'chains of being' that inspire subordinations of nature to culture, non-human to human, and even human to human. Pedagogies and resources that help us to unlearn the barriers we have constructed between the social and the ecological, nature and culture, human and non-human must be complemented by resources that facilitate an appreciation of relationality.

## *Relationality*

**Socioecological** (un)learners can further disrupt **binary oppositions** with examples of relationality and interdependence between the otherwise polarised constituents of a dyad. Ritchie (2013) identifies *relationality* as ‘our lived relation to other human beings, other living creatures, and to the non-living entities with whom we share our spaces and the planet’ (p. 307). Arguably, the **posthumanist** (Snaza & Weaver, 2015) and New Materialist turns are essentially counterbalances to the anthropocentric view of humans as separate, independent beings outside of nature.

In terms of the heuristic model (see Figure 1) this disruption towards relationality is akin to showing that there is a certain symmetry between ‘opposites’ (i.e. ‘a’ and ‘b’); the effort to push them further away from each other on a line, paradoxically reveals their looping circularity and co-dependency. This is a well-recognised dynamic that is related to a number of concepts, including *relational reasoning* (Reich, 2002), *enantiodromia* (Jung, 1971), *aufheben* (Hegel as cited in Adorno, 1993) and *immirration* (Adam, 2016). For **socioecological** learners, these concepts describe the relationality between nature and culture, social and ecological, male and female, living and non-living, birth and death, predator and prey. Such relationality is a central assumption in the conceptualisation of sustainability.

Learning that is participatory and relational is dependent on a community of learners that is ‘minimally distorted by power relations’ (Wals & Dillon, 2013, p. 257). A major challenge of such learning in relation to **socioecological** issues is negotiating the dyadic tension between consensus and social cohesion, on the one hand, and power and counter-hegemonic positions, on the other hand (Wals, 2010). This needs to occur without diluting real and important

differences of interests, needs and values by recognising that opposition and engagement with division can lead to deeper understanding, or at least, better management of conflict and difference.

There are many examples of relationality that can be used to unlearn the fiction of disconnected opposition in relation to **socioecological** dualisms. Feedback loops concerning industrial ecology are particularly useful in showing relationality in closed-loop systems. As Ehrenfeld and Gertler (1997) reflect:

Environmental thinking has recently focused on a consciousness of the intimate and critical relationships between human actions and the natural world, and reflects limits in the current reliance on command-and-control regulation in much of the industrialized world . . . Moving from linear throughput to closed-loop material and energy use are key themes in industrial ecology' (p.68)

Thus, the industry that exploits its resource-base will eventually fail. The farm that contaminates its own soil or water source will eventually fail. Examples of long-term closed-loop relationality help to disrupt the short-term separations that characterise the most destructive dualisms. There are many other ways to complicate the falsely dichotomous solutions that exacerbate the **wicked problems** of the **Anthropocene**. For example, predator-prey relationships between snowshoe hares and lynxes, and wolves and moose; and symbiotic relationships as between cleaner wrasse Labroides and groupers, the hummingbird hawkmoth and the Dianthus flower, can help **socioecological** learners to appreciate the relationality of ecological systems, which disrupt **binary oppositions** between nature and culture. As **socioecological** learners, we need access to multiple relationships between dyadic

constituents before we can unlearn or reimagine the relationships of dominance between the social and the ecological, the built and the natural environment.

### *Contextuality*

**Socioecological** (un)learners disrupt dualisms by asking, ‘What place and time does this practice or belief come from?’ and ‘How does it fit here, now and into the future?’

*Contextuality* reflects a sensitivity and responsiveness to the time, place and space of a belief or practice. In terms of the heuristic model, contextuality is the appreciation that there are different ways of relating the constituent parts of a duality (i.e. ‘a’ and ‘b’) and that these ways, even extreme oppositions (e.g.  $a > b$ ,  $b > a$ ) may have legitimate expression in a particular context. However, **socioecological** (un)learners are particularly sensitive to the dominance and imposition of beliefs and practices beyond their time and place. They are willing and able to see that almost any belief and practice, originating from left or right or even the middle of the spectrum, can evolve into self-protective dominance beyond its legitimate context.

To unlearn and to encourage **unlearning**, educators may need to move away from habituated practice and adopt a more *reflexive* stance that raises awareness of context. Reflexivity is the ‘practical sense away from automatic or habituated practice to a more aware and evaluative relation to oneself and one’s contexts’ (Schirato & Webb, 2002, p. 255). Reflexivity involves a critical awareness of the social self in relation to the ecological other. It recognises that **socioecological** language, assumptions, social practices and discursive positionings are embedded and contextual; and that this embedded positioning informs the relationships and knowledge production central to educators’ work (McNay, 2004). **Unlearning** reflects a commitment to regularly re-position oneself, if only to strengthen one’s commitment to a

particular position in context. Collectively, these characteristics are important for re-imagining more sustainable ways of thinking, relating and acting beyond the **Anthropocene**.

## Conclusion

This chapter has offered a unique synthesis of concepts (i.e. **unlearning, wicked problems, binary oppositions, Anthropocene**) in the context of **socioecological** learning. The rationale for this synthesis can be summarised as follows: The **Anthropocene** is defined by the scope and scale of human impact on nature; this influence has been supported by a metaphysic that positions culture and nature in **a binary oppositional** relationship; this metaphysic does not reflect the **'wicked'** nature of the **problem** of being human; these ways of knowing and being human must be unlearned; dualisms are a fundamental structure of human learning; therefore, new metaphysical models are needed that accommodate dualisms yet facilitate the **unlearning** of **binary oppositions**. To this end, the chapter introduced a heuristic model of **monistic dualism** for **unlearning** the **binary oppositions** of the **Anthropocene**.

We conclude where we began – with Scranton's (2014) poignant question: 'Are ancient Greek philosophers, medieval theologians, and contemporary metaphysicians going to keep Bangladesh from being inundated by rising oceans?' (p. 234). Metaphysics may not abate the rising oceans in the short term but it may help us to *unlearn* what we must have learned to raise them in the first place.

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