

Exploring Cynefin - Being in Place

Dylan Adams

E-mail: dadams@cardiffmet.ac.uk

Received April 2022
Accepted for publication April 2022
Published May 2022

Abstract

It is argued that modern life in Western industrialized societies causes us mistakenly to believe we are separate from nature. Furthermore, the self-denial of our interrelatedness manifests in wanton devastation and destruction of the natural world. Our relationship with the land is the concern of educators who advocate place-based pedagogy. It is claimed this relationship is important not only for children's holistic development and the betterment of humankind, but also to prevent what has been called "the sixth mass extinction" caused by Western societies' alienation from nature. The Welsh word, *cynefin*, provides insight into ways of knowing and states of being that are alternative to the dominant epistemologies and ontological stances in mainstream education yet in keeping with place-based pedagogy. *Cynefin* appears as a keyword in the new curriculum for Wales that is to become statutory in September 2022, but the word itself cannot easily be translated into English. This paper analyses how an interpretation of the word *cynefin* could be significant as it provides insight into how place-based experiences could affect children's ontological and epistemological understandings. It begins by outlining how mainstream schools in the West sever children's natural kinship with nature, and sense of place, by prioritising limited ways of knowing and limited states of being. It then explores how the word *cynefin* can be interpreted in a way that resonates with place-based, holistic pedagogies. This includes interpreting data from an interview with a hill-farmer who speaks Welsh as his first language. Finally, it highlights research into place-based approaches that chime with the concept of *cynefin* and seem to offer hopeful imperatives by affording children an ingress into more dialogic experiences with the more-than-human world.

Keywords: more-than-human, place-based pedagogy, *cynefin*, land, ontological, epistemological

In the preface to the second edition of his book, *Man in the Landscape*, Shepard (2002) admits that his previous faith in "the idea of landscape as a magic concept" (p. xxiv) was shattered by McLuhan's (1964) analysis of the sixteenth century invention of landscape as contributing to a detachment from the natural world, a "means of stepping out of the picture" (Shepard, 2002, p. xxv). Shepard argued that the idea of the landscape could mean the mystery and wonder of nature, and "those feelings of an intuitive sense of shared existence and a common ground of being" (p. xxv). However, the idea of the landscape has become subverted and transformed into mere scenery, thus serving corporate greed and industrialization. Thus, it denies "our real work" and turns us all "into voyeurs and tourists" (Shepard, 2002, p. xxv).

This sense of stepping out of, and apart from, the natural world, and viewing it as scenery, a collection of objects to observe, or even exotic life to encounter as entertainment, has seemingly been exacerbated in the twenty-first century in the West as society teaches us that "nature is something you look at, not something you are in and of" (Abram, 2010, p.14). Shepard (1998) argues that the seeds to this

alienation from nature were planted by our Neolithic, first-farmer ancestors. The compulsion to territorialize and control grew through farming and village life, leading eventually to mass urbanization (Shepard, 1998). This urbanization in turn has led to ever-increasing "indoorism" (Orr, 1994) dulling our sensory awareness of the natural world and the telluric dimension of place (Shepard, 1998). Shepard (1998) argues that modern life in Western industrialized societies results in a damaging psychopathology that causes us mistakenly to believe we are separate from nature. Furthermore, the self-denial of our interrelatedness manifests in wanton devastation and destruction of the natural world. This "madness" is created by a perverse ontogeny that lacks a healthy childhood development in harmony with the other-than-human world (Shepard, 1998). Shepard suggests that the neuroses prevalent in modern, urban societies have their roots in this arrested development. Encased within concrete walls and floors that shut out the natural world, children are starved of encounters with "beautiful and awesome otherness" causing the "brittleness of modern social relationships" (Shepard, 1998, p.108).

Our relationship with the land is the concern of educators who advocate place-based pedagogy (Blenkinsop, 2012; Jardine, 2012; Gray and Birrell, 2015). This relationship is important not only for healthy child development and the betterment of humankind (Shepard, 1998), but also to prevent what has been called “the sixth mass extinction” (Morton, 2018; Raup and Sepkoski, 1982) that is facing our planet caused by Western societies’ alienation from nature. The Welsh word, *cynefin*, provides insight into ways of knowing and states of being that are alternative to the dominant epistemologies and ontological stances in mainstream education yet in keeping with place-based pedagogy. *Cynefin* appears as a keyword in the new curriculum for Wales that is to become statutory in September 2022, but the word itself cannot easily be translated into English. I suggest that the interpretation of the word *cynefin* could be significant as it provides insight into how place-based experiences could affect children’s ontological and epistemological understandings. This paper begins by outlining how mainstream schools in the West sever children’s natural kinship with nature, and sense of place, by prioritizing limited ways of knowing and limited states of being. It then explores how the word *cynefin* can be interpreted in a way that resonates with place-based, holistic pedagogies. This includes interpreting data from an interview with a hill-farmer who speaks Welsh as his first language. Finally, I highlight research into place-based approaches that chime with the concept of *cynefin* and seem to offer hopeful imperatives by affording children an ingress into more dialogic experiences with the more-than-human world.

Education in the West is suffering from an “ontological delusion” (Jardine, 2012, p.11) that renders human beings as being separate from and superior to the natural world (Jardine, 2012). This severance of children from their “more-than-human” (Abram, 1996) relations is borne out of an “epistemological naiveté” (Kincheloe, 2008, p. 54) that prioritizes human reason and logic over other ways of knowing, oversimplifying knowledge production and what constitutes knowledge (Jardine, 1992). This began with Descartes and the Enlightenment as Descartes decreed that the pinnacle of existence was human reason (Bordo, 1987). In pursuit of how to attain certain knowledge, Descartes concluded that “the means to certain knowledge must be through systematic doubt” (Evernden, 1999, p.52). Thus, logical reasoning was elevated above all other means of knowing. Furthermore, Descartes stated, “*cogito ergo sum*,” translated as, “I think, therefore I am,” positioning logical thought as both the pinnacle and the meaning of human existence (Evernden, 1999). Consequently, this “I think” was separated from our bodies, and the earth, and “severed from any sense of earthly embodiment, obligation, necessity, or ecological consequence” (Jardine, 2000, p. 89). Within this paradigm of apparent closed perfection, human

beings are subjects and all else are objects - objects waiting to be analyzed and categorized by mathematical reason, the source of truth (Jardine, 2000). Descartes therefore separated people from the natural world and “made it next to impossible for us to regard the world as anything but a storehouse of material” (Evernden, 1999, p. 54). Orr (2013) warns that this results in all places becoming “real estate,” full of potential resources to be used, their “ecological, social, political, and spiritual possibilities lost to the purely and narrowly utilitarian” (Orr, 2013, p. 184).

Jardine further analyzes (2012) how the philosophies of Descartes, Kant, and Piaget, driven by a colonial spirit, have ruled over Western education, schooling pupils to adhere to the logic of the dominant culture. An in-depth exploration of what this entails is beyond the scope of this paper. For a more thorough examination of the philosophies that caused this predicament see Jardine (1992; 2005). However, it is useful to summarize how Descartes’ dualism of mind and body, or mind and matter, was extended by Kant and Piaget. First Kant’s philosophy claimed that logic was God-given, and that nature could only have meaning through human logical analysis (Jardine, 2007). Kant’s philosophy is known as the “Copernican Revolution” as it “re-claimed at the epistemological level what was lost in the cosmological level in the work of Copernicus” (Jardine, 2007, p. 30). Nicolaus Copernicus was a sixteenth century mathematician and astronomer who devised an astronomical model claiming that the sun was the center of the universe and the Earth rotated around it. Jardine explains that this had removed humanity from its place in the perceived hierarchical cosmology (2006). However, Kant reclaimed the center by “putting human Reason, and its structures and characteristics at the center of the knowable Universe” (Jardine, 2006, p. 23). It was deemed that human rational, logical understandings were the pinnacle of truth as they represented the mind of God. Therefore, rational thought is deemed to have “universal and necessary structures independently of and not derived from any contact with things in the world (*a priori*)” (Jardine, 2005, p. 41). Consequently, thinking about anything in nature can only be meaningfully understood and thought about through rational, logical analysis. (Jardine, 2005). Piaget’s theory of measurable developmental steps in childhood followed, and it too pointed toward the supposed superiority of mathematical logic (Jardine, 1992). Piaget’s developmental scheme progresses upwards to logical thinking, ending with the capability for abstract thought. Jardine argues that these powerful scientific theories have held dominion in mainstream education and in combination have produced “the deep-seated belief in what could be called the univocity of reality” (Jardine, 2000, p. 91).

Within this paradigm, objective, rational thought is the zenith of human thinking, conforming to a positivist view of

the world whereby things are categorized, labeled, and measured. (Kincheloe, 2008). The body, our affective domains, and the environment are merely potential obstructions to the purity of cold, rational logic (Bordo, 1987). However, there are those who argue that the elevation of rational thought as something that is apart from embodied, earthly connections is because of a reduced understanding of rational cognitive thought (Immordino-Yang & Damasio, 2007; Damasio, 2005). This reduced understanding positions rational thought as being divorced from feeling and bodily knowings, thus oversimplifying the process of rational cognitive processes (Immordino-Yang & Damasio, 2007; Damasio, 2005). Damasio analyzes neuroscientific and biological evidence to show that the body and “feelings are a powerful influence on reason” (p. 245). Moreover, by reducing all thinking to rational, logical thought, schooling in the West promotes an epistemic colonialism that marginalizes non-rational knowings (Hart, 2008; Orgaz, 2015). This ruling paradigm in education potentially denies children the opportunity to explore the way that we are always embodied and emplaced (Orr, 2013). This denial involves a suppression of children’s “pathic” (van Manen, 2016) knowledge. Van Manen (2016) states that pathic knowledge is “sensed or felt rather than thought or reasoned” (p. 85). Children’s pathic knowledge is experienced by acknowledging the “atmosphere, sensual, and felt aspects” (van Manen, 2016, p. 85) of places. As O’Laughlin (2006) states, “the intercourse of a living being with its environment includes cognition but is by no means exhausted by it” (p. 113).

Pulkki et al., (2017) claim that a denial of children’s holistic experience of place is a denial of “the lived body” and causes education to neglect “ecologically fruitful action” (p. 214). It is argued that human alienation from nature is seen “as closely related to alienation from one’s body” (Pulkki et al., 2017, p. 214) as our body connects us to the natural world. There is a long lineage of voices from academia in the West calling for greater attunement in education with, and for, children’s embodied understandings. Dewey (1934/2002) explained human understanding as involving a “trans-action” between a person, their environment and their body. Merleau-Ponty (1962) stated that we are only conscious of the world through the medium of the body and Foucault (1988) positioned the body as central to understanding through his “technologies of the self”. Despite these voices, education in the West has largely concentrated on the Cartesian dualism that there is “thinking matter and extended matter – or, more colloquially, ‘us’ and ‘it’” (Evernden, 1999, p. 75).

It is argued that this dualist perspective not only stymies the understanding of other ways of knowing, but also shackles the expression of other ways of being (Abram, 2010; Bordo, 1987; Evernden, 1999; Jardine, 1998). Therefore, this

perspective has ontological as well as epistemological significance. Keller (2004) decries one of the “prime hallucinations of Western culture” as the belief that “who you are is skin-encapsulated ego” (p. 274). This leads to the existence of “the separative self” (Keller, 2004, p. 274) and has dire ecological consequences as it neuters our feeling of interrelatedness with the more-than-human world (Abram, 2010; Keller, 2004). Abram (2010) states that instead we need to realize that “the body is itself a kind of place - not a solid object but a terrain through which things pass” (p.230) and as such human beings exist in a state of constant reciprocity with the more-than-human world. The idea of the individual self, separate from the rest of the living world is a myth that needs to be challenged by an expanded ontological understanding (Abram 2010; Keller, 2004). We need to realize that “we are not human all the way through” (Morton, 2018, p. 56) as our being alive means we share, exchange, and participate with the more-than-human world. Our very existence relies on “non-human symbionts” (Morton, 2018, p. 56) that keep us alive.

Haugen (2019) calls on us to recognize our shared existence and participation with the other-than-human world as a dialogic relationship. She argues that we need to practice being aware of our dialogue with the other-than-human world so that we understand “the world is not quite what we previously believed, and that we are not quite who we thought we were” (Haugen, 2019, p.176). It is the mystery not mastery of nature that should be celebrated as we need to acknowledge the psyche, the collective soul or anima mundi of our planet (Haugen, 2019). She asks whether, if we allow for “experience and perception of the anima mundi,” we would be able to “continue shutting down Earth’s life support systems” (Haugen, 2019, p.169). Pyle (2014) similarly argues that we desperately need to experience “a strong sense of our more-than-human neighborhood” if we are to change behaviors and avert climate catastrophe. Decades ago, Pyle (1993) warned that children were suffering from the “extinction of experience” because of reduced opportunities for authentic engagement with the more-than-human world. Soga & Gaston (2016) emphasize that this lack of experience not only impacts negatively on people’s well-being, but also “changes people’s emotions toward nature, including their affinity to, interest in, and love of nature” (p. 97). However, Haugen (2019) is concerned not just because children’s current estrangement from the natural world is an existential threat, but also because it involves an impoverished existential understanding that stunts their spiritual development. The change that is needed is nothing less than an expanded sense of self, in keeping with the enhanced ontological understandings called for by Abram (2010), Keller (2004), Morton (2018) and others. Macy (2019) refers to this as the “greening of the self” and states that it requires a spiritual awakening that allows us to understand that “the world is

our body” (p.161). Macy (2019) aligns this with ancient wisdom traditions that perceive the land as being alive and sentient. Maker (2018) similarly explains that indigenous people experience landscape as “both their homeland and a sentient entity of metaphysical and physical proportions and presences” (p. 454).

These ancient beliefs that view the Earth and the landscape as being alive may currently seem far removed from most mainstream education in the West. As has been explored above, industrial growth societies have traditionally prioritized a dichotomous perspective that has separated human beings from other beings in the natural world and sees the life processes of our planet as being principally mechanistic (Evernden, 1999; Morton, 2018). However, in Wales, a new curriculum is being launched in September 2022 that has committed to the “well-being of future generations” (Donaldson, 2015, p.18). In doing so, it aims to foster “ethically informed citizens who show their commitment to the sustainability of the planet” (Donaldson, 2015, p. 30). The aims and ethos of the new curriculum align with the Wellbeing of Future Generations (Wales) Act (Welsh Government, 2015) that in turn links with the United Nations’ Sustainable Development Goals (Davidson, 2020). The Well-being of Future Generations (Wales) Act has sustainability as an underlying principle and “a strong sense of place” (Davidson, 2020, p. 85) as one of the guiding foundations. The new curriculum for Wales also endorses the importance of place-based awareness through the Welsh word, *cynefin*. This word has no direct English equivalent but appears repeatedly in the curriculum guidance (Welsh Government, 2021). *Cynefin* is defined in the curriculum for Wales guidance as:

“The place where we feel we belong, where the people and landscape around us are familiar, and the sights and sounds are reassuringly recognisable. Though often translated as habitat, *cynefin* is not just a place in a physical geographical sense; it is the historical, cultural and social place which has shaped and continues to shape the community which inhabits it” (Welsh Government, 2021).

The word landscape here potentially points towards the concept of *cynefin* as involving our relationship with the natural world. *Cynefin*, though, is a slippery word when trying to interpret it in modern society. It has no direct equivalent in English and the word itself comes from ancient times when people had a different relationship with the land. Sinclair (2004), in his introduction to the book, *Land and the Sea* by Welsh artist Kyffin Williams, explains that *cynefin* is about people’s “relationship to the land” (p. 11). *Cynefin* describes this relationship thus: “the environment in which you live and to which you are naturally acclimatised... the interaction between man and his environment” (Sinclair, 2004, p.11). This idea of interaction between people and the

land is echoed in Snowden’s explanation that a loss of *cynefin* means that “a community is not physically, temporally and spiritually rooted”; it is therefore “alienated from its environment” (2003, p. 24).

As part of research for this article I interviewed a Welsh-speaking hill sheep farmer. He is a first-language Welsh speaker from a Welsh speaking, farming family going back for many generations. I asked him what the word *cynefin* means. He replied:

“It used to be that different farmers would be taking their sheep to different parts of the same common land to graze. They would leave their sheep there in this one place and when they came back to gather them, the sheep were in the same little spot, their *cynefin*. They might wander off during the day, but they would always come back to their part of the land, their *cynefin*.”

I asked if the different parts of the common field were obviously different due to the amount of grass or trees, and how the sheep knew where to go. He replied:

“No, they were the same. And it was a big, big area. They must have a sense of where their land is...they must feel it.”

I then asked if he used the word *cynefin* just when talking about sheep. He replied:

“Oh no! It’s the same with me. If I’ve been away on a journey and I come back, I can feel it, the land when I come back, my *cynefin*”.

Finally, I asked, what does that feeling of *cynefin* feel like? He said:

“It feels like you’re part of the land and the land is part of you... You feel it’s where you belong”.

This sense of “feeling the land” therefore expresses a sense of connection with the landscape that is beyond merely the topography of a geographical area. Instead, it acknowledges our ability to know in ways beyond purely rational, logical understandings. It expresses those moments when we feel a sense of relation with a living, animate landscape. Thus, the concept of *cynefin* chimes with Haugen’s (2019) call for us to experience our dialogic relationship with the other-than-human world. She echoes the awareness of indigenous cultures whose children have been taught that “the other-than-human world is in conversation with you, asking from you a devoted attention” (Haugen, 2019, p. 170). Being attentive in this way can provide remedy to the view that objectifies the more-than-human world, so that it is “vacant of mystery” (Haugen, 2019, p. 173) lacks purpose and sentience, and has an absence of psyche.

Research with primary school children in Wales has shown that children can feel a sense of dialogue with the land and experience a sense of wonder with the natural world when they are engaged in activities that allow for attentive awareness in local nature places. These activities include making music outdoors (Adams & Beauchamp, 2019), engaging in mindful activities (Adams & Beauchamp, 2021a), and playing games that afford the children immersion in, and with, the natural environment (Adams & Beauchamp, 2021b). A common theme running through all three of these research articles is that the children experienced an expanded sense of self involving an enhanced sense of relation with the more-than-human world. One of the children describes this dialogic experience as feeling “like you’re having a conversation with them, like they’re talking back to you and they’re listening” (Adams & Beauchamp, 2019, p. 269). The children also consistently describe feeling a bond or feeling “one with nature” (Adams & Beauchamp, 2021a, p. 136). For example, one child says they felt “part of it...because everything I can see was nature and it felt like I was in nature” (Adams & Beauchamp, 2021b, p. 13). These responses resonate with those who assert that we are not on our planet, we are in our planet because we exist in continual reciprocity with the more-than-human world (Abram, 2010; Macy, 2019).

These heightened states of being were experienced during activities that allowed the children an awareness of, and attentiveness to, the other-than-human world. As Grunewald (2003) states, a place-conscious education must acknowledge that the other-than-human world has something to say; in other words, we “must learn to listen (and otherwise perceive)” (p. 624). I hope that the concept of cynefin can allow children to “otherwise perceive” by helping to re-focus mainstream education in Wales onto ways of knowing and states of being that are not confined to narrow, logical ways of understanding. Cynefin is described as “experiencing the wonder of the natural world” and cultivating “a sense of place and a sense of belonging” (Welsh Government, 2021). But cynefin can only be experienced if children are given the opportunities to listen attentively to the voices of the more-than-human world. Only then can the feeling of belonging, the sense of cynefin be known, and children experience feeling part of the landscape and the landscape feeling part of them.

References

- Abram, D. (2014). The invisibles: Toward a phenomenology of the spirits. In Graham Harvey (Ed.) *The Handbook of Contemporary Animism* (pp. 132-140). Routledge.
- Abram, D. (2010). *Becoming animal. An earthly cosmology*. Vintage books.
- Abram, D. (1996). *The spell of the sensuous: Perception and language in a more-than-human world*. Vintage.
- Adams, D., & Beauchamp, G. (2021a). A study of the experiences of children aged 7-11 taking part in mindful approaches in local nature reserves. *Journal of Adventure Education and Outdoor Learning*, 21(2), 129-138.
- Adams, D., & Beauchamp, G. (2021b). Other knowings and experiencing otherness: Children’s perspectives of playing a hunting game in a nature reserve. *Australian Journal of Environmental Education*, 37(3), 224-239.
- Adams, D., & Beauchamp, G. (2019). Spiritual moments making music in nature. A study exploring the experiences of children making music outdoors, surrounded by nature. *International Journal of Children’s Spirituality*, 24(3), 260-275.
- Blenkinsop, S. (2012). Four slogans for cultural change: An evolving place-based, imaginative and ecological learning experience. *Journal of Moral Education*, 41(3), 353-368.
- Bordo, S. (1987). *The flight to objectivity: Essays on Cartesianism and culture*. Suny Press.
- Damasio, A. R. (2005) [1994] *Descartes’ Error: Emotion, reason and the human brain*. Penguin Books.
- Davidson, J. (2020). *#futuregen: Lessons from a small country*. Chelsea Green Publishing.
- Dewey, J. (1980). *Art as experience*. Perigree.
- Donaldson, G. (2015). *Successful futures: Independent review of curriculum and assessment arrangements in Wales*. Welsh Government.
- Evernden, L. L. N. (1999). *The natural alien: Humankind and environment*. University of Toronto Press.
- Foucault, M. (1988). Technologies of the self. In L. Martin, H. Gutman, & P. Hutton (Eds.), *Technologies of the self: A seminar with Michel Foucault* (pp. 16–49). Massachusetts University Press.
- Gray, T., & Birrell, C. (2015). ‘Touched by the Earth’: A place-based outdoor learning programme incorporating the Arts. *Journal of Adventure Education and Outdoor Learning*, 15(4), 330-349.
- Grunewald, D. A. (2003). Foundations of place: A multidisciplinary framework for place-conscious education. *American educational research journal*, 40(3), 619-654.
- Haugen, G. M. (2019). Imagining Earth. In L. Vaughan-Lee (Ed.), *Spiritual ecology: The cry of the earth*. The Golden Sufi Centre.
- Hogan In Jensen, D. (1995). *Listening to the land: Conversations about nature, culture and eros*. Sierra Club.

- Jardine, D. W. (2012). *Pedagogy left in peace: Cultivating free spaces in teaching and learning*. Bloomsbury Publishing.
- Jardine, D. W. (2009). Birding lessons and the teachings of cicadas. In D.W. Jardine, P. Clifford & S. Friesen (Eds.), *Back to the basics of teaching and learning*. Routledge.
- Jardine, D. W. (2006). *Piaget & education primer* (Vol. 7). Peter Lang Publishers.
- Jardine, D. W. (2005). "Cutting nature's leading strings": a cautionary tale about constructivism. *Canadian Journal of Environmental Education*, 10(1), 38-51.
- Jardine, D. W. (2000). *Under the tough old stars. Ecopedagogical essays*. The Foundation for Educational Renewal.
- Jardine, D. W. (1998). "To dwell with a boundless heart": On curriculum theory, hermeneutics and the ecological imagination. Peter Lang Publishers.
- Jardine, D. W. (1992). Immanuel Kant, Jean Piaget and the rage for order: Ecological hints of the colonial spirit in pedagogy. *Educational Philosophy and Theory*, 24(1), 28-43.
- Jensen, D. (1995, 2004). *Listening to the land: Conversations about nature, culture and eros*. Sierra Club.
- Keller, C. (2004) Catherine Keller. In D. Jensen *Listening to the land: Conversations about nature, culture and eros*. Chelsea Green Publishing.
- Kincheloe, J. L. (2008). *Knowledge and critical pedagogy: An introduction* (Vol. 1). Springer.
- Williams, K. (2004). *The land & the sea*. Gwasg Gomer.
- Macy, J. (2019). The greening of the self. In L. Vaughan-Lee (Ed.), *Spiritual ecology: The cry of the earth*. The Golden Sufi Centre.
- Marker, M. (2018). There is no place of nature; there is only the nature of place: Animate landscapes as methodology for inquiry in the Coast Salish territory. *International Journal of Qualitative Studies in Education*, 31(6), 453-464.
- McLuhan, M. (1964). *Understanding media. The extensions of man*. Signet.
- Merleau-Ponty, M. (1965). *Phenomenology of perception*. Translated by Colin Smith. Routledge.
- Morton, T. (2018). *Being ecological*. MIT Press.
- Orr, D. (2013). Place and pedagogy. *NAMTA Journal*, 38(1), 183-188.
- Orr, D. W. (1994). *Earth in mind: On education, environment, and the human prospect*. Island Press.
- Pulkki, J., Dahlin, B., & Värri, V. M. (2017). Environmental education as a lived body practice? A contemplative pedagogy perspective. *Journal of Philosophy of Education*, 51(1), 214-229.
- Pyle, R. M. (2014). No child left inside: Nature study as a radical act. In *Place-based education in the global age* (pp. 179-196). Routledge.
- Raup, D. M., & Sepkoski, J. J. (1982). Mass extinctions in the marine fossil record. *Science* 215,1501-1503.
- Shepard, P. (1995, 2004). Paul Shepard. In D.Jensen (1995). *Listening to the land: Conversations about nature, culture and eros*. San Francisco: Sierra Club.
- Shepard, P. (2002). *Man in the landscape: A historic view of the esthetics of nature*. University of Georgia Press.
- Shepard, P. (1998). *Nature and madness* University of Georgia Press.
- Sinclair, N., (2004). Preface In K. Williams (Ed.), *The land & the sea*. Gwasg Gomer
- Soga, M., & Gaston, K. J. (2016). Extinction of experience: the loss of human-nature interactions. *Frontiers in Ecology and the Environment*, 14(2), 94-101.
- United Nations (2021). Sustainable development goals. Available at: <http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>
- Van Manen, M. (2016). *Pedagogical tact: Knowing what to do when you don't know what to do* (Vol. 1). Routledge.
- Welsh Government (2021). Hwb Curriculum for Wales. Area of Learning and Experience. Humanities Available at: <https://hwb.gov.wales/curriculum-for-wales/humanities/statements-of-what-matters>
- Welsh Government. (2015). Well-being of future generations (Wales) act 2015.

Acknowledgement

Dylan Adams is a Senior Lecturer in Education at the Cardiff School of Education and Social Policy. His teaching career has spanned the last twenty-five years. Previously, he worked as a primary school teacher and as an educational consultant before moving into higher education. His research interests include: outdoor education; holistic education; contemplative pedagogies; and the expressive arts. He is an Executive Committee Member of The British Education Studies Association (BESA), a Fellow of the Royal Society of Arts (FRSA) and a Fellow of the Higher Education Academy (FHEA).