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ARTICLE

Ancient natural philosophy: A resource for environmental education

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Abstract
Studying humankind's relationship to the earth involves broad and deep questions for students as today's educators explore changing teaching methods. This article highlights benefits of a multidisciplinary approach to environmental education, drawing upon ancient natural philosophy as a coherent conceptual resource. The Greek philosopher Plotinus is introduced to show the application of ancient natural philosophy across all fields and on all levels of knowledge under a common banner. The significance of ancient natural philosophy is its conception of overall unity. This is the key. Unity is implicit in interrelationships between parts to whole on all levels of existence. From such a perspective, all life forms and other entities in the natural world can be understood as interrelated — just as James Lovelock demonstrated in describing the *homeostatic* state of natural processes on earth. On a similar reasoning, the diversity in people, societies and places can be appreciated physically and sociologically as belonging to one world. Several studies are cited to explore this overlap between ancient natural philosophy and honouring the connection and dependence of humanity on the fragility of the earth's ecosystem.

Keywords: Gaia; homeostasis; Lovelock; nature; Neoplatonism; noêtic unity; philosophy; Plotinus

A sense of urgency exists as many different scholars attempt to establish adequate frameworks for environmental discussion (Skrimshire, 2018; Smith, 2018). The continued call to extend and deepen the capacity to articulate coherent and compelling ways of thinking about humanity's relationship to the earth is still resisted or ignored by many politicians and allied groups (Quarshie, Salmi, & Wu, 2019; Vetlesen, 2015). In this process, such broad and deep questions often solicit concepts that reach far beyond those sanctioned by contemporary worldviews (Corrigan, 2004; Arendt, 2006; Blok & Jensen, 2019; Lewis & Owen, 2019).

In contributing to this intellectual work, this article has three aims. First, in a substantive sense, to identify how separate areas of knowledge might find points of intersection or reconciliation by drawing upon the holistic framework of ancient natural philosophy (Deck, 1991). Second, to frame the breadth of our knowledge of nature as multifaceted within this universal philosophical worldview (Armstrong, 1940). Third, to put forward ancient philosophy, recognisable in Neoplatonic thought, as offering a coherent, alternative account of how students and educators can think about explaining and convincing, or perhaps bypassing, those yet unpersuaded that the environmental cause is robust and of great priority (Van Ryn, 2017).

This article developed from thesis research into Neoplatonism's understanding of synaisthēsis as a mode of collective existence in Nature, corresponding to principles recognised by other traditions as a particular unified state (Van Ryn, 2017) — a 'noêtic unity' — as a mode of perception

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of the 'perceptible whole'. This research focused on the philosophic writing of the Neoplatonic philosopher Plotinus (c.204–260 CE), the third great name in the Neoplatonic tradition in addition to well-known philosophers Plato (c.427–348 BCE) and Aristotle (c.384–322 BCE) (Armstrong, 1949; Corrigan, 2005, 2009, 2014). Plotinus' use of the Greek term *synaisthēsis* can be seen as equivalent to homeostasis. This philosophic conception of the life-giving, self-sustaining unity of earth found parallels in scientific debates around Lovelock's Gaia theory, though his ideas were first seen as mystical (Enting, 2012; Lovelock, 1991, 1995, 2009). The present inquiry involves finding bridges between fields and disciplines as diverse as science, philosophy and ancient thought.

A Matter of Perspective

The search for common ground for environmental discussion is ongoing for scholars from many fields. What is here called ancient knowledge or wisdom adds to this richness, engaging contemporary science perspectives to challenge mediatised and politicised beliefs that deny and delay change (Gerson, 2004; Guénon, 2004, 2007). This is an issue even beyond ignorance of the larger perspectives of the human condition (Naess, 1995, 2000). The additional motivation of vested interests and disinformation creates the need for environment educators to be able to offer students and other scholars the breadth and robustness of analysis and commentary on the unified situation of humanity on the planet, as the basis for informed discussion, according to the wisdom of the collective, for the long-term good of the whole (Klein, 2014).

Van Ryn (2010) began research on the unity of Nature looking at the controversial stance of scientist James Lovelock, partly due to his holistic approach. In the Gaia theory, Lovelock (1988) argued in scientific rather than philosophic terms for the integral role of the natural processes, identifying a life-giving unity known as homeostasis on earth and in its biosphere. In such reframing, disciplinary divides between science and other modes of thinking about these problems are significantly dissolved or become porous. Lovelock emerged as a leading protagonist for change in contemporary worldviews, the legacy of his unanswered questions serving to stimulate enquiries reaching far beyond his primary empirical concerns and discipline (Lovelock, 2006, 2009).

There are common foci within many philosophical and scientific areas. Studying the Greek Neoplatonic scholar Plotinus offers a representative way of examining the broader scope of ancient natural philosophy (the 'ancients'), as distinct from what appears to be 'macro' philosophies and theistic religions emphasised by many different traditions (Armstrong, 1949). The Neoplatonists illuminate what are called First Principles that underlie many ancient traditions and open doors to a universal cosmology. On that same basis, Neoplatonists long recognised and anticipated what James Lovelock found he needed to explore — a type of governance behind the unity of the physical activity described in homeostasis (Corrigan, 2005; Hadot, 1993). For the ancients, there are in all things interdependent relationships between parts to whole. In Nature, these relationships are integral to the unity that makes up each life form on all levels of existence, between parts to whole as separate bodies, and to the collective, even in non-living entities (Johnstone, 2014). For science, this unity is geophysically evident in homeostasis.

Moreover, for the Neoplatonist, the true nature of a thing is the power that drives all parts towards full potential in the unified state of a living entity. Simply put, Nature (using the capitalised 'N' for this term) is the distinct power or principle that informs the natural life of a thing. Thus, all things at all levels of existence are integral to the life of the collective purely in their own terms. Perhaps a simple analogy of the interconnectedness logic of ancient natural philosophy can be seen in as something as simple as a spherical climbing frame — all-inclusive, holistic, connected.

For the ancients, the unity in each living thing is recognised on a deeper level as a particular state of consciousness known as synaisthēsis. The attribution of synaisthēsis to Nature is to be noted since the natural world is usually denied any form of consciousness. However, synaisthēsis is recognised in the unity of the interrelationships as a state or mode of consciousness underlying the collective. From that

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perspective, synaisthēsis underpins the homeostatic state of the physical world. Thus, homeostasis links ancient and contemporary worldviews: demonstrating the integral unity of all natural life forms creates a common vision that strongly supports a reassessment of our perception of Nature.

In one sense we are all potentially environmental educators in whatever field of disciplinary expertise we might practice. Setting out here some key concepts from a Neoplatonic perspective on the environment invites readers and students to hear yet another voice in support of deeper insight into the life of the planet we live on rather than pursuing extractive, commercialised short-term interests.

Ancient Natural Philosophy Principles for Environmental Education

Ancient natural philosophy is a cosmology underpinned by *First Principles* of unity through the relationships between parts and whole, in *all* things, on all levels, of being or existence. This central tenet of Neoplatonism as an ancient natural philosophy can be seen in several examples connecting it to environmental education, and this discussion pivots to those illustrations in the second half.

Seeking to Frame Environmental Discussion

As a scientist, Lovelock's view of life on earth was unique. He encompassed all life from an overall or top-down perspective. From that vantage point, he could see the need for a united, more liberated approach towards unravelling the mysteries of natural phenomena, unshackled from the linear, empirical and anthropocentric paradigms of contemporary modernist scientific thought — making his argument from the evidence he saw where science's own logic was taking it (Kuhn, 1970; Preston, 2008).

Skrimshire (2018) also recognises the difficulty in determining a universally acceptable framework for environmental discussion. He questions the underlying objectives of many current approaches, even the Anthropocene as an historical and ethical epoch, and how, within deep time, ethics and morality might be determined. He points out that the long-term vision of our relationship with Nature is often jeopardised by the immediacy of issues determined by social and cultural values. Moreover, economic growth targets depend upon increasing rates of consumption underpinned by narrow, short-term commercial objectives. Conversely, the ancients emphasise the holistic context in which to situate anthropocentric matters such as ethics and morality within a universal paradigm.

As Skrimshire observes, there has been a transition in our worldview over time, from ancient cosmology to a secular worldview. For humanity, the shift signalled a so-called 'enlightened' change of relationships from participation to observation (Hankins, 1985). However, a resurgence in the 1970 s drew upon the holistic views of Eastern traditions, revealing on a deeper level an innate sense of overall unity. The irony is that now, as Skrimshire notes, we are attempting to recover that connection and connectedness.

Ancient natural philosophy thus provides the framework for a holistic and multifaceted approach to environmental enquiry based upon principles of unity as an all-inclusive epistemology (Van Ryn, 2018). From this perspective, the separate sciences become aspects of the greater structure of holistic knowledge, elucidating the natural principles of the processes by which this comes about. What this means is that knowledge per se is no longer anthropocentrically orientated but cosmically framed.

The Relationship Between Knowledge and Existence

In ancient traditions, levels of knowledge are earned through rites of passage. Individual life experience is interpreted within the context of the whole life of the cosmos, and moreover,

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within cyclic time. Uniquely human attributes are recognised from that perspective — although as privileges — intrinsically bound to responsibilities towards, and ineluctable participation in, the natural world.

Seeking Indigenous Knowledge as an Environmental Tool

The importance of the context of ancient or Indigenous knowledge and existence needs to be stressed. This is consonant with the idea that context is imperative to any study, but moreover that the purpose of scientific inquiry is by intention or indirectly, instrumental in illuminating ancient values.

Radcliffe, Parissi, and Raman's (2016) Papua New Guinea (PNG) study of Indigenous knowledge was aimed at developing a knowledge management model to enhance agricultural and environmental education for Indigenous peoples. But Indigenous people took little interest, so the research group sought to develop more appropriate frameworks by drawing upon Indigenous insights. This remained problematic for several reasons. Although the value of Indigenous knowledge was recognised as a valuable resource, questions of trust, culture and social barriers limited its potential. On Van Ryn's (2018) reasoning, traditional knowledge as a rite of passage to be earned means these prerogatives are inseparable from responsibilities towards all forms of existence. In Western development models, even when well intended, knowledge becomes a product to be digitised and transmitted. Between these two different ideologies emerges the ecological problem. Demand for cash crops increases, agricultural chemical inputs increase, and the depletion of the natural environment continues.

Valuable Lessons

The Radcliffe et al. (2016) study group later found that traditional eco-knowledge is 'encoded' in language, customs and practices on a far deeper level than the contemporary world realises. The value of Indigenous knowledge is defined as a cumulative body of knowledge generated and evolved over time: generative, creative, thought and actions within individual societies in an ecosystem of continuous residence in the face of ever-changing agro-ecological and socio-economic environments. Indigenous knowledge is reliant on a holistic understanding of one's context. People and place have inherent reciprocal values that nurture the sense of belonging. Indigenous peoples refer holistically to the soil as 'mother', nurturer of the farmers and surrounding areas.

The project ultimately suggested that a value shift is needed, as Naess (2011) urges, from the techno-centric style of education to a universal framework. Thus, the importance of context and inherent constraints are highlighted in the sense of total views, partly inspired by the science of deep ecology. The PNG study found that the aim of an educational program would be better served incorporating variances in the natural and social setting of individual villages in order to provide deeper learning, in contrast to passive receiving of information from the instructional transfer of a technology program.

Calculating the measure of difference that the research will make to the communities concerned presents another challenge. At what cost would the significant interventions fit within the cultural and agricultural aspirations of the community if outside support were involved? It is a serious question. The bottom line was: Were outsiders attempting to tell the community what they already know? Does this advice interfere with a self-sustaining system for external gains? After all, the social and cultural significance of the possession of pigs as the currency in PNG is active and alive.

Self as Inclusive Identity

Naess (1995) approached the question of life on earth and our relationship to it, by drawing upon Eastern philosophy and its recognition of 'Self' or universal essence as integral to all life.

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From there, the multifaceted nature of human experience is truly represented through an all-inclusive relationship between subject and object, as the 'All' in each identifies with the 'All' in the other. The critical distinction in self is universal and not to be confused with the individual ego or self.

A Mode of Understanding

As Naess (1995) explains, the sense of real knowledge of animals, for example, would include our inherent relationship to them. As he reminds us, the Self in ecological terms encompasses the rich diversity in constitutive relationships throughout existence. It is largely a forgotten understanding in the contemporary world. Because our innermost awareness of other is an identity within it, our moral consideration of it deepens, contrary to our so-called 'enlightened' self-interested version that is in urgent need of a reassessment of our values.

Inclusion Over Exclusion

Naess (1995) stresses that everything in the economy of ecology is interrelated, as Self, identity between all life in the ecosystem and the ecosphere throughout Earth's long history. What this means is that people and landscape are integrally tied, as the above findings in PNG revealed. Moreover, Naess illuminates the relationships as internal, not external, as previously thought. As he says, this type of internal reciprocity demands a particular interpretation. There are apprehensible qualities in Nature, qualities that transcend the limits of practical and social considerations — for example, by connecting with beauty and other values comparable to the benefits of recreation. These are the reasons why the destruction of Nature and our place in it is a threat to our most inner Self.

At the same time, Naess (1995) campaigns strongly for the protection of nonindustrial cultures and their traditional insight from the overriding force of industrialisation. He draws upon Ghandi for support from his supremely written and political aim, as achieving self-realisation through the recognition of the All, oneness of all life. This is a universal theme, the innate sense of belonging that manifests from one's identity with the All, and vice versa; in this sense, Nature discloses the enduring relationships that underlie an all-inclusive unity in the All. This is why Nature is regarded by the ancient traditions as the primordial text.

Nature as Primordial Text

More than simply Plotinus' major concepts and terms, his perspective finds correspondence in Naess' (2011) work here, linking to inclusion over exclusion and experiencing a relationship to the natural world. Our argument for educationalists is to nurture this awareness and experience of our relationship to the natural world that our Western model of education has failed to adequately valorise.

Environmental educators acknowledge the importance in early childhood development of our experience and relationship to the natural world. Moreover, in the daily interaction between small children and family and friends, those relationships radiate, rippling through discussion and play. Our first-hand experience of the natural world potentially contributes to or stimulates our 'grown-up' interpretation of Nature. Hence, in early childhood, the importance of balance between the child's freedom to explore Nature and the discreet guidance that enables this freedom is highly valuable.

Challenging Early Environmental Educational

Teachers such as Jickling, Blenkinsop, Morse, and Jensen (2018) are exploring options for changes to the framework of mainstream educational methods in order to facilitate a less restrictive

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framework for environmental education. A fundamental starting point such as 'Wild Pedagogies' is a challenging term that might signal to early childhood educators the possible diversity of experience in exploring the complex natural world. The idea of 'wild' indicates natural places across ecosystems where children and people feel comfortable to explore places, with the opportunity to investigate freely and develop in ways unattainable within the classroom. The team suggests that the introduction of core elements might lead to incorporating many different disciplines as an experience within a flexible framework to explore the vibrancy in ecosystems over time.

Again, the relationship between humankind and Nature is being explored as an important if not essential concept in environmental education. In addition, a freer curriculum is encouraged in order to accommodate a reciprocal role in teaching. Education at all levels of human activity is considered to be instrumental to the necessary reinterpretation of the natural world and our relationship to it. Jickling et al.'s (2018) team recognise the importance of replacing anthropocentric and anti-relational terminology in our pedagogies so that the validity of experience becomes more about recognising the agency in Nature, as co-teacher, and our participation with Nature.

Other routes for exploring philosophy and science or the human and natural on planet Earth can be traced from Deleuze and Guattari's (1987/2007) pivot from history to place in their geophilosophy (Alliez, 2004; Gasché, 2014). For them, philosophy is a resource to be deconstructed to explore alternative methods applicable to contemporary enquiry. But not just geography; they posit a theory of nondiscursive, noninterpretive potentialities that signify meaning. This goes beyond our present discussion but links to it in many ways such as Olsson's (2009, pp. 24–28) work on education and human learning.

Indoor/Outdoor Nature Education

Piersol, Russell, and Groves (2018) include all aspects of student life, both indoor and outdoor, in hands-on experiential learning. The aim of the program is to support students towards a sense of stewardship within and beyond their communities. The authors introduce NEST — Nature Education for Sustainable Todays and Tomorrows — highlighting the value of lessons to be learnt from community, place and the more-than-human world. The principle behind NEST is to foster the deepening of all relationships through the understanding of and caring for all within. The key in exploring new possibilities for cultural change is identified by the team in educational choice to integrate understanding on all levels within ever-changing circumstances. In their view, our experience of the subtle changes over time deepens our understanding and sense of place.

The valuable inclusion of free play in early childhood education in the natural world fosters the building of relationships between humans and other creatures. Additionally, experience of the patterns displayed in natural phenomena tends to nurture a certain kind of resilience, respect and love of Nature. This potentially develops these attributes as a way of life in the future. For some, perhaps surprisingly, the experience of Nature is as close as the garden. The authors suggest that all natural experience is important and healthy as creating more receptive interest and a much-needed sustainable ecological consciousness. Furthermore, it is possible for educators to guide children and even parents to learn collectively by facilitating lateral thinking.

Building a Deep Cultural Relationship to the Natural World

Naess (2000) refers to Eastern kinds of education as providing a model for teachers to stimulate the imagination that allows children to broaden their perspective on Nature, more like being a Nature guru. He advises that education will need time and opportunities to build a deeper cultural relationship to the natural world, but much more than this, he stresses that fundamentally it is us who have to change.

Kettleborough (2019) applies this in her research on 'first person practice' as an ethical approach to nurturing an increased awareness of our innate connection with Nature. She notes a tendency to

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deny or distance ourselves from alarming environmental issues, but stresses that we are capable of reviewing or questioning and thus changing our thought patterns. Kettleborough advocates bearing witness as a first-hand, achievable goal of universal importance. This, she argues, is facilitated by deep thinking and reflection upon one's values as the foundation for further purpose and action. The acceptance of extended ways of knowing or understanding the natural world could be the basis for change in democratic policy making.

As an integral part of life on earth, Kettleborough argues that we are capable of the objective kind of perception that reveals the patterns underlying natural phenomena. She begins by noting the depletion of species within the paradigmatic list sadly named 'Gaia's Graveyard'. Gaia, beyond the earlier meaning of earth as a whole, also meant Earth as the nurturer for life, recognising the planetary whole as a single living organism. Lovelock embraced this term for his thesis on the life-giving system in Gaia, planetary *homeostasis*. The graveyard is a collection of articles that show depleted and extinct species evidencing the severity of the threat to Nature. Kettleborough flags the critical need for challenge to the dominant Western world-view paradigm and as witness-bearers to natural phenomena; that is, participating individually as the outward expression of our innermost changes — educators about the environmental, as much and more than anybody.

The Way Forward

Naess (2011) distinguishes deep ecology in terms of a moral relationship to the natural world rather than being merely instrumental. He stresses as others have that our value priorities must come under scrutiny if the very basis of our law-making is to avoid the perpetual change driven by contemporary economic motives and objectives. Although the need for deep and far-reaching changes is recognised, how to stabilise — and moreover decrease — consumption, while retaining a genuine quality of life, poses serious philosophical questions for environmental and societal ethics (May & Semetsky, 2008). Naess calls for more resolute commitment to address deep ecological concerns already recognised within the broader industrial realm, but still remaining unendorsed professionally. On an international platform, his deep concern that the World Conservation Strategy (when written) presented notably modest objectives for a shallow environmentalism justified anthropocentrically by human health and wellbeing (Fideler, 2014).

To sum it up, Naess (1995) lists eight points in support of deep ecology. He stresses that non-human life on earth is inherently valuable in its richness and diversity as it contributes individually and collectively to values independent from human purposes. On that basis, Naess warns that any decision to interfere in natural diversity is a very serious matter to be undertaken only as a last resort. His warning sits in stark contrast to the anthropocentric values imposed upon the environment in terms of the extraction of resources and global commerce. Human intervention has escalated over time due to ever-increasing population growth, now problematic for both human and nonhuman continuance.

Like Plotinus, Naess (1995, 2011) identifies the epicentre. Ideologically, the quality of life must change from sheer 'bigness' to the greatness of inherent value, which necessarily means that basic economic, technological and ideological structures must change deeply from now on. The idea of progress must be scrutinised and universalised, if the use of resources stands to serve an enduring quality of life rather than an economic standard of living as generally promoted by consumerism. Strategies involving immediate and long-term objectives are needed throughout all walks of life; the obligation is as widespread as the frontier of the environmental crisis itself.

Other philosophical framing or reframing — for example, Deleuze and Guattari's (1987/2007) work discussed above — helps connect ecological concerns and green activist urgency required today, offering ways to deepen the conversation and shift contemporary discourse. It needs to move towards layered and complex understanding that must shift human practice if we are to sustain human wellbeing on earth, a matter of both philosophy and action.

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Conclusion

In this discussion many environmental proposals and insights from different perspectives emphasised common themes for educators, offering alternatives for environmental engagement within many fields. It becomes evident, however, that the struggle to adequately frame this enterprise was and is necessary and is ongoing. It may be possible to draw upon ancient natural philosophy as a resource for a more contemporary framework than anyone currently imagines. This could provide the scope for the broad and deep questions that concern humanity in general, and humanity's relationship to the natural world (Corrigan, 2014). The aim of this article was to emphasise the need for an all-inclusive approach and to explore the possibilities for reassessment of the values behind our goals, and thus find alternative solutions while remaining true to homeostatic values.

The present discussion highlights the benefits of a multidisciplinary approach to environmental education by drawing upon the holistic framework of ancient natural philosophy as a coherent, viable resource. Naess (2011) pinpointed where the two worlds meet — the holistic or total worldviews of the ancient traditions are more like ecosophies (ecological/wisdom) — that one could advocate as enabling us to look forward through the ancient lens of a *noêtic* unity.

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Dr Edgar A. Burns publishes and presents regularly as a sociologist and educator. His book *Theorising Professions* raises broad questions of hegemonic Western values and social epistemology. Frameworks of cultural knowledge more generally, such as the bundling and unbundling of beliefs and meta-narratives, can be seen to inform present debates on climate and environmental impacts.

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