Taylor & Francis
Taylor & Francis Group

Planetary health as a troubling concept for the ecological university: unification, revolution or utopia?

Nicola Kemp & Ronald Barnett

Published online: 10 Mar 2025.

Submit your article to this journal ⬀

Article views: 70

View related articles ⬀

View Crossmark data ⬀

Routledge
Taylor & Francis Group

🔓 OPEN ACCESS | Check for updates

Planetary health as a troubling concept for the ecological university: unification, revolution or utopia?

Nicola Kemp [a] and Ronald Barnett [b]

[a]Academy for Sustainable Futures, Canterbury Christ Church University, Canterbury, UK; [b]University College London, London, UK

ABSTRACT

This paper contributes new insights into a topic of contemporary significance to higher education in general, and more particularly to this journal – that of the role and responsibility of the university in the context of socio-ecological crises. Specifically, it explores the (hitherto unexamined) relationships between the ideas of the ecological university and planetary health and the ways in which the latter might inform or 'trouble' the former. To provide a frame for this exploration, the *Planetary Health Education Framework* – developed to distil 'the essence' of planetary health in relation to values, knowledge and practices in higher education – is deployed. It is concluded that, while the relationship between the two concepts is (super)complex, the idea of the ecological university is supervenient on that of planetary health. Planetary health can be understood as a potentially unifying concept for the ecological university in its response to three key planetary 'failures' (conceptual, knowledge and implementation). It is also a revolutionary concept, calling for an urgent transformation of major institutions, systems and frameworks at micro and mega-ecosystem levels. Most significantly, although both concepts contain utopian strains, with their foundation in ontological realism, planetary health offers a strong regulatory ideal for universities which seek to develop their ecological credentials.

Introduction: troublesome matters

This conceptual paper contributes new insights into a topic of contemporary significance to higher education, and specifically to this journal – that of the role and responsibility of the university in the context of socio-ecological crises. A 2023 'state of the climate report' starkly concludes that 'life on planet Earth is under siege' (Ripple et al. 2023, 841). That report provides evidence for the 'escalating and interconnected' ecological overshoot that human activity is driving (Ripple et al. 2023, 848), and for impacts already being experienced on human and environmental health and well-being including 'unbearable heat, frequent extreme weather events, food and freshwater shortages, rising seas, more emerging diseases, and increased social unrest and geopolitical conflict' (849). These effects are not only symptoms of planetary crisis (Kahn 2010) but also of a deep 'social-ecological ill' (Salonen, Erkka Laininen, and Sterling 2023, 3).

The concept of *planetary health*[1] has emerged in response to this understanding that the totality of planet Earth is now in a state of ill-health and urgent action on a global scale is required to address underlying causes and effects. With its origins in the field of global public health, planetary health represents 'the latest paradigm' for addressing the accelerating planetary crisis (Downs et al. 2022, 243); and one that is gaining traction in international research, policy and practice because of its integrative potential. Whilst it shares commonalities with other conceptualisations including sustainable development, the concept 'seeks to more fully capture the dynamic, hypercomplex interdependencies between human wellbeing and social-ecological systems' (Downs et al. 2022). As such it has been suggested as offering a 'paradigm shift' (Bukhari 2024, 306) in how we think about and respond to the crisis; and as being a concept with revolutionary potential.

Universities are increasingly implicated in 'allowing this systemic unsustainability to emerge' (Stewart, Hurth and Sterling 2022, 1). Others even argue that universities have taken an active role, as knowledge producers and disseminators, in supporting a 'tragic worldview' based on infinite productivity using finite planetary resources (Moran 2013). Within this range of views, there is a growing consensus that, given their 'keystone positioning' in society (Bainbridge 2024), there is a need to reimagine the very idea of the university (Barnett 2013), so that it can realise its transformational potential. One such image is that of the ecological university.

The idea of the ecological university has been evolving for more than a decade (Barnett 2011; 2018; 2024; Stratford 2024) against a changing horizon and is at the centre of our enquiry. Conceptualised as comprising eight interconnected ecosystems, the ecological university is also entangled with and *intentionally* engages with the mega-ecosystems of the world. Those ecosystems are seen as impaired and falling short of their possibilities, partly owing to the practices and frameworks of universities themselves. By positioning the university within multiple ecosystems, the framework is extended beyond neoliberal critique (Moran 2013), while recognising the economy and the state as strong steering mechanisms. Similarly, in contending for agency and possibilities on the part of the university in repairing those ecosystems, the idea of the ecological university explicitly contends against the view of the contemporary university being 'in ruins' (Readings 2017). This idea of the ecological university is utopian, for the forces acting against it are powerful and enduring. It is also *feasibly* utopian (Barnett 2018) in that, in principle, it could be brought about. As an imaginative frame (Barnett 2011) that marries critique of the present with hope for the future, the ecological university permits exploration of kinds of universities that are both possible and desirable in the contemporary context.

In this paper, we explore ways in which the idea of planetary health might inform the realisation of the ecological university. Despite both concepts having a horizon of planetary wellbeing (Elo et al. 2023) and having powers to influence university research and teaching, there has been no attempt to explore their inter-relationships. As will become apparent, whilst both ideas have separately generated significant attention in higher education (Heller 2023; Leal Filho 2022; Stratford 2024), the implications of planetary health for the university, qua institution in all its ecological complexity, remain unexplored. Our inquiry has a horizon formed of three questions that seek to interrogate the concept of planetary health and to offer new insights about its potential for universities with ecological intent:

(i)   Is planetary health to be understood as a *meta-concept* that might unify the ecological university in its entanglements with major ecosystems?
(ii) Might planetary health be regarded as a *revolutionary* concept, that injects an added urgency to, and a heightened praxis in, the ecological university, which in turn becomes a vital *and* necessary institution for enhancing planetary health?
(iii) Is the concept of planetary health a *utopian* venture, adding to the utopianism already present in the concept of the ecological university?

This inquiry may be understood as a troubling inquiry. This is not merely on account of its conceptual and theoretical complexity, and so coming close to the epistemic 'troublesomeness' identified by Meyer and Land (2005). Nor is this troubling just on account of its engaging with some of the

largest issues of the age which are bringing 'armageddon' concerns (Kato 2020). The troubling here derives also from a sensitivity towards the dominance of anthropoid and anglo-centric academic scholarship, a sensitivity that must refract back on a paper such as this. Further, there is a trouble in the Donna Haraway (2018) sense, namely that this inquiry elicits aporias that have no resolution and so one must 'live with the trouble', in Haraway's incisive phrasing. This paper, is, itself, the product of a shared trouble derived from two different motivations: the one practical, the other theoretical. On the one hand, it comes from the experience of attempting to operationalise one university's commitment to sustainable futures (Kemp and Bainbridge 2024). On the other hand, it emerges from a desire to articulate the realization of the ecological university (Barnett 2024). Neither of these two sources of trouble permit of definite resolution.

We start by clarifying the idea of the ecological university and then move to an examination of planetary health in higher education, teasing out cross-connections with the ecological university. We then explore the implications of this conceptual analysis in relation to our three research questions.

The idea of the ecological university

The idea of the ecological university is at once a conceptual, a philosophical and a socio-theoretical venturing. *Conceptually*, the ecological university is not confined to a locus in Nature but is understood as interconnected with the totality of the world, albeit largely tacitly. *Philosophically*, the idea of the ecological university honours but posits the rhizomic frame of Deleuze and Guattari (2007) as being too static, for all its haphazardness. Bhaskar's critical realism is helpful in placing emphasis on ontology, a stratified world of deep structuring mechanisms, but we need to add moments of imagination and creativity, which are underplayed in Bhaskar's philosophy (Bhaskar and Hedwig 2010). *Socio-theoretically*, the idea of the ecological university acknowledges Guattari's (2005) book, *The Three Ecologies,* but locates universities and higher education as entangled with no less than *eight* ecosystems, those of knowledge, learning, persons (each understood as an ecosystem), culture, social institutions (society), the economy, the polity and Nature. Nature is placed last in the series since Nature is no longer natural but has been shaped by forces associated with the other seven ecosystems. Accordingly, the ecological university achieves its eco-agency by addressing the malformations in those *other* seven ecosystems prior to and alongside addressing those in Nature.

A key distinction in the idea of the ecological university turns on the matter of complexity, a characteristic that is typically underplayed in other theoretical framings of the university. The contemporary university finds itself in a situation of complexity in taking on ecological responsibilities, not least in being entangled with multiple ecosystems. Those entanglements exhibit not merely motion (Nail 2019) and the quality of emergence arising from the inter-meshing of ecosystems as open systems, but also *antagonistic* motion. There is deadlock within and across ecosystems (Zizek 2009) – witness culture wars *within* the ecosystem of culture – and antagonistic relationships are to be seen *across* the ecosystems. For example, the ecosystems of the economy and Nature are reciprocally in conflict with each other. This system complexity is compounded by a discursive *supercomplexity* (Barnett 2000), which is reflected in questions such as 'What is a university?' or 'What is higher education?' Serious responses to questions such as these can only intensify their inner aporias. It is against this complex – and *super*complex – situation that the ecological university seeks to ameliorate the ecosystem malformations that entangle it. In a complex and supercomplex world in antagonistic motion, the ecological university is never fully accomplished. The eight ecosystems are always impaired, not least because the discursive resources and frameworks will continue to multiply. The ecological university is always a work in progress; a consideration heightened when placing the idea of the ecological university against the horizon of planetary health.

Planetary health and higher education

Universities and the wider academic community have been at the forefront of the planetary health concept (Horton et al. 2014). Over 400 universities from 70-plus countries are members of the Planetary Health Alliance (PHA), a consortium that supports research, education, community building and outreach to understand and address global environmental change and its health impacts. Three challenges for humanity have been identified by the Commission for Planetary Health for collective action (Whitmee et al. 2015):

  (i) Conceptual and empathy failures (imagination challenges)
 (ii) Knowledge failures (research and information challenges)
(iii) Implementation failures (governance challenges).

Whilst multiple stakeholder groups are identified by the Commission, universities are positioned as having a particular responsibility in addressing these failures given 'their unique positioning within societies worldwide, including as … sources of innovation, thought leadership and critical stakeholdership' (Guzmán and Potter 2021, 14).

To unpack what planetary health might mean for the ecological university, a starting point is the *Planetary Health Education Framework (PHEF) (*Guzmán and Potter 2021; Guzmán et al. 2021). This framework (commissioned by the Planetary Health Alliance) was developed by an interdisciplinary, intergenerational and international group of academics for understanding 'the essence' of planetary health in relation to values, knowledge and practice in higher education. It identifies five foundational – and interconnected – domains:

(1) Interconnections within nature (IWN)
(2) The anthropocene and health
(3) Systems thinking and complexity
(4) Equity and social justice
(5) Movement building and systems change (Guzmán and Potter 2021; Guzmán et al. 2021)

In the next sections of this paper, we work through these five domains to draw out implications for the ecological university.

(1) *Interconnection Within Nature*

Conceptually, planetary health is predicated on an understanding that planet Earth is confronted by crises that derive from an epistemological 'error' (Bateson 2000). This error is rooted in the relationship between Nature as an ecosystem and human understanding of the world. Reflected in Descartes' (1966) first principle of philosophy, 'I think, therefore I am', it is a stance in which human being and Nature are sensed as separate. Knowledge becomes a matter of holding a mirror up to Nature (Rorty 1980) and truth becomes a matter of forming propositions that correspond to segments of a world held to be separate from human being. Planetary health guides attention to ways in which dominant epistemologies – as an outcome of this being/Nature duality – have encouraged an instrumental reason, to which Nature became subjected. It is this separation that is at the heart of the conceptual and empathy failure identified by the Planetary Health Commission (Whitmee et al. 2015).

The first challenge for the ecological university is, then, one of 'imagination', specifically of reimagining the university's place in the world (Barnett 2013). The words within the (above) PHEF domain name 'Interconnection Within Nature' hint at the scope of the challenge: 'Interconnection' emphasises reciprocity; 'Within' positions humans as part *of* nature and so moves – in a post-human frame (Braidotti 2013) – beyond over-privileging human being as a species *and* accords a heightened

recognition *to* Nature; and 'Nature' encapsulates all life on earth including humans (Guzmán and Potter 2021). It would be a goal of the ecological university to play a part in closing epistemic gaps between dominant perspectives and Nature by addressing the knowledge ecosystem. The ecological university would, therefore, seek to bring its understandings of the world such that they are more *of* a world that has its own being. It would furnish a potential reciprocity between the world and our knowledge of it.

Attention is directed to communities in traditional societies – especially in First Nations. Not only is it a matter of respecting human communities as such but it is also a matter of respecting their epistemologies, for which human being is within Nature and Nature is within being (de Sousa Santos 2014). A disrespect towards the epistemologies of indigenous peoples may have aspects of coloniality and may be *inter*-connected with an instrumentality towards nature (as Angela Roothaan argues in her [2020] book on 'Indigenous, Modern Relations to Nature: Negotiating the Environment'). An interest in indigenous communities also provides an opening to spiritual traditions and ways of knowing that go beyond the cognitive and incorporate affective and behavioural dimensions. The task, as summarised by Salonen, Erkka Laininen, and Sterling (2023, 14), is nothing less than rethinking 'what it means to be human in the context of Earth, and how the relationship between individuals, society and earth should be organised.'

Closing the epistemic gap is not just a conceptual matter but it also requires the ecological university to 'personify the change' (Guzmán et al. 2021, 23). As Horton and Lo (2015) suggest, this means attending to the health of universities' own ecosystems and the extent to which their operations *might* (1) reduce environmental impact and increase ecological diversity, (2) build healthier and more equitable ecosystems and (3) enhance relative prosperity for poorer communities with a focus on collective thriving rather than on individual gain. Such an analysis calls for the university to identify possibilities for the university qua institution *and* in human development, both in its pedagogic practices and in its interconnections with wider communities.

(2) The anthropocene and health

The concept of the Anthropocene signals a new period in the evolution of planet Earth where human activity is having an impact on ecosystems, such that its imprint is evident in the uppermost layers of the planet, including its immediate astro-layers (Crutzen and Stoermer 2000). Associated with this Earthly imprint are major ecosystem disturbances, and threats to human well-being. It is a corrupted natural environment – and related impacts on human health – on which the idea of the Anthropocene focuses. The idea requires understandings of the totality of planet Earth as it has become, and the apparent direction of its trajectory. Core are two ontological ideas. First, there is a domain of the real that stands independently of human being. Second, the non-human and human elements of planet Earth stand in a reciprocal relationship, with each having causal effects on the other. With its emphases on Earth, ecology, ontology and human being, this set of ideas points to an eco-philosophy (Bhaskar, Hoyer, and Naess 2012) or to a 'geophilosophy', situating itself in 'the relationship of territory and the earth' (Deleuze and Guattari 2013, 85). Planetary health embraces just such a philosophy, in positing a 'necessary ontology … to perceive and understand the world as it is' (Salonen, Erkka Laininen, and Sterling 2023, 8).

The Anthropocene poses a challenge for the ecological university, not least in the latter's role as a producer of knowledge in both research and teaching. Specifically, it places an onus 'to tell the public the truth about the crises we face in simple and direct terms' (Ripple et al. 2023, 848) and there are clear implications for knowledge and learning ecosystems at mega and micro levels. Truth in effect shifts from being located especially in knowledge interests to being placed in planetary interests, where the Earth claims primary attention and warrants a sense of its possessing rights (Vanderheiden 2017). This epistemic shift places responsibility on universities to focus research on the nature and extent of ecosystem impairment and meaningfully to engage students and the wider community to live much more in and not just on the Earth (Latour 2024).

Notable work includes that of Rockström et al. (2009) on planetary boundaries that have both defined the 'safe operating space for humanity' (472) and provided clear evidence of where safe thresholds have been exceeded, while impairments in the ecosystems of economy and society were points of departure for Raworth (2017) in her influential text on doughnut economics. Significantly, Raworth's work highlights the incompatibility of dominant economic practices and horizons – not least the goal of continuous economic growth – with planetary health. This message is reinforced in more recent research (Ripple et al. 2023; Rockström et al. 2023) where the economy is positioned as a key driver of ecosystem overshoot. Against the horizon of the Anthropocene, this implies that the ecological university should attend to imbalances within and across the eight ecosystems, and particularly the dominance of the economy at both micro and mega scales.

(3) Systems thinking and complexity

Implicit in this narrative is an unfolding of a complex territory. Both planetary health and the ecological university are concepts in which is recognised multiple interdependent ecosystem impairments underpinned by causal relationships and feedback loops (Barnett 2024). Downs et al. (2022, 243) refer to 'hypercomplex interdependencies' while Butzer (2012, 3632) observes an 'intricate interplay' between social, political, cultural and environmental factors that hinder or promote human flourishing. The matter of systems complexity is a wicked problem (Rittel and Webber 1973) and entails approaches to knowledge production and dissemination (in learning processes) that are orchestrated against that horizon. It is not happenstance that the idea of transdisciplinarity (Gibbs and Beavis 2020) has emerged of late.

Transdisciplinarity is fundamental to any understanding of planetary health, not least in the 'boundary crossing' that is part of its practices (Vereijken et al. 2023). This boundary crossing lies in a 'hidden third' lying between, and connecting, ontological and epistemological territories (Collett 2021; Gibbs and Beavis 2020; Nicolescu 2016). Such boundary crossing could include co-researching with societal stakeholders, transgressing disciplinary boundaries, prioritising marginalised and minority perspectives, and facilitating epistemic diversity and democracy, as well as peering into the 'darknesses' of life (Barnett and Bengtsen 2020). In essence, such collaborations would emerge out of responses to the *real* the world. Admittedly, transdisciplinarity requires a willingness to risk 'a leap in our understanding' of the world (Rockström et al. 2023, 109). 'Risk' here is both methodological and ontological in being open to the whole Earth and its inter-connectedness, and in seeking to overcome the dualities imposed on it by humanity.

The ecological university, accordingly, is required to pay attention to *how* it proceeds, a 'how' that calls for practices that are complex and open (Schatzki 2002). This would be an approach that embraces unintended consequences; in short, a mode of operation that sponsors the condition of emergence, where new possibilities spring from and are newly imagined in dynamic and even dialectical modes. Sponsoring such emergence within universities requires critical and creative thinking and an attentiveness to context together with a collective will to disagree well (Bainbridge and Kemp 2024). This is problematic in a higher educational context driven by strong state steering with its standardisation, metrics and accountability systems and by the uneven power of the disciplines and results in (eco)system impairments – knowledge is not circulating as it might, culture has become a culture industry, the economy benefits a few and learning shrinks to skills acquisition. The ecological university is faced with ecosystem formations that are not just complex but are impaired. Its own complex formations are misshapen.

Alongside these impairments-in-complex-systems, the ecological university is confronted with a *discursive* complexity to which it is all the time adding. This discursive complexity is radically different from systems complexity: whereas the latter can be mitigated to some extent (by careful systems design; by a different use of resources), the former – discursive complexity – can never be so diminished. To the contrary: in providing a space in which difficult issues, such as those associated with planetary health, can be debated, the university goes on *widening* discursive complexity.

Accordingly, this complexity can legitimately be termed *super*complexity (Barnett 2000). As part of its mission, the ecological university must wrestle with the disputatiousness of competing interpretations – say, of the extent and significance of climate change – and enlarge the public sphere as it engages with the discursive conflicts of the public frameworks (Laclau and Mouffe 2001). This is a hook that the ecological university cannot evade. It notes the narrowing of public discourse on significant issues and seeks to widen those frames of understanding and, in so doing, it confronts a strengthening of the supercomplexity that is in it and that surrounds it.

(4) Equity and social justice

A concern about planetary health brings to the fore equity and justice matters given that the effects of planetary ill-health are visited most intensively upon those least responsible (low-income and island communities, young and marginalised populations): a disequilibrium between causes and effects is evident. These structural inequalities are present in vectors such as colonialism, racism, patriarchy, capitalism, neoliberalism and environmental justice on a global scale (Roothaan 2020).

The *Earth System Justice Framework* (Gupta et al. 2023) is an example of the radical change towards which planetary health points, and is intended to promote intergenerational, intragenerational and interspecies justice not only globally but also at local and sub-regional levels. It recognises the need to acknowledge and challenge dominant power relations that are based on vested interests to engage the marginalised and excluded, and to extend rights to the non-human (Vanderheiden 2017). The aim is a more equitable sharing of the Earth's resources. The focus is on structural and institutional transformations.

For the ecological university, a stance of reflexivity is implied in relation to thought and action, to understand and acknowledge internal and external values, attitudes and behaviours, and the ways these might affect social and environmental interactions. Such a stance aligns with agendas such as decolonisation, internationalisation, equity and inclusion, and calls for integrated responses to these phenomena (Vázquez-Martin et al. 2022; Schwittay 2021). An opportunity opens within learning as an ecosystem to integrate institutional priorities through the concept of planetary citizenship (Misiaskek 2018). This extends the idea of global citizenship and offers a basis for promoting collective/societal reflexivity. It calls for a rethinking of relationships between individuals, society and the Earth and prompts pedagogical practices infused with such values (Salonen, Erkka Laininen, and Sterling 2023).

(5) Movement building and systems change

The idea of planetary health is action-oriented and embraces high-level systems development and local movement building. It is allied to the idea of 'the Great Transition', understood as an intentional global and 'comprehensive shift in how human beings interact with each other and Nature' (Guzmán and Potter 2021, 4). Planetary health is a radical concept such that, when applied to the university, its microecology and its relationships with the mega ecosystems in which the university is entangled are problematised. It fundamentally challenges the nature of the relationships that universities currently have with society, and, in the words of McCowan (2023, 7) 'the extent to which the former can serve and shape the latter'. His basic argument is that higher education has become so 'subservient' to the neoliberal economic agenda that it has lost a sense of being a critical commentator, with a capacity to help in shaping rather than just reflecting society (17). This organisational quiescence is at the heart of the implementation failure identified by Whitmee et al. (2015).

A further challenge for the ecological university rests on questions of governance and specifically how it might gain a sense of ecological agency and autonomy. A thesis that is relevant here is that of corporate agency, set out by List and Pettit (2011). Their book does not deal with universities but, drawing from their thesis, we may say that a university acquires corporate agency when its decisions

are such as to command assent if put to the test. The ecological university could encapsulate and extend the idea of corporate agency in two ways. *First*, since the ecological university is faced with making choices over its priorities – as it engages with its eight pressing ecosystems – there will need to be focused debate across the university. Issues would have to be made explicit and given wide examination, among staff and students. That debate would need to be governed by discourse ethic of disagreeing well for, amid super-complexity, there are bound to be fundamental differences of view. *Second*, this communicative ethics would be a form of communicative action in its fullest sense (Habermas 1984). The pragmatic aspects of the university's debates would be to therefore, but accompanied by a meta-discourse, intent on examining the ethical dimensions of contemplated actions. Debate would have to approach the form of an ideal speech situation (Habermas 1984, 25), with the elements of power characteristic of academic situations held in check. The ecological university plays out its interest in planetary health as a site of open and non-coerced speech, both so that all voices may be heard, and that the quality of *discursive emergence* is maximised.

The relationship between planetary health and the ecological university

Having teased out aspects of the relationship between planetary health and the ecological university, we now consider our earlier three research questions.

(i) Is planetary health to be understood as a <u>meta-concept</u> that might unify the efforts of the ecological university?

The preceding analysis suggests that planetary health indeed offers a potentially unifying concept for the ecological university in responding to three failures (previously identified) within the eight mega-level ecosystems. In response to the first failure (conceptual and empathy), the position of universities as thought leaders permits a fundamental reimagining of humanity-nature relationships through an embracing of epistemic diversity. The second focuses on universities' function as knowledge producers and disseminators and, through transdisciplinary approaches, requires the ecological university to develop an understanding of the causes and effects of ecosystem impairment and possible remedies. Finally, in response to implementation failures, the position of the ecological university as a key societal and worldly player requires that it challenges structural inequalities and foster an ecological agency, among its members, society and the whole world, including Nature.

The ideas of planetary health and ecological university share much of a common language and intent. Both concepts, properly interpreted, embrace Nature as an ecosystem – or set of ecosystems – *and* the more human-saturated ecosystems of knowledge, learning, persons, culture, society, the economy and the polity with which the university is implicated. The two concepts offer a joint horizon against which universities might integrate their understandings and actions across their ecosystem entanglements. Yet, planetary health is the superior concept for it may be understood precisely as a meta-concept that can unify the efforts of the ecological university in addressing its entanglements with the mega-ecosystems that have ensnared it.

There are, however, caveats. The first concerns the extent to which the roots of planetary health in human (public) health, exemplified by the (continued) strong support of *The Lancet* (Downs et al. 2022)*,* might be considered to perpetuate rather than challenge anthropocentrism, thereby limiting its unifying potential. The second relates to the question as to whether unification across ecosystem domains is even desirable for the ecological university. The concept of the ecological university is inherently complex, entailing vectors moving antagonistically, across ecosystems, and on multiple planes. Spaces are needed if the university is to acquire ecological agency. Whilst clarity in mission articulation is important, a heterogeneity in spaces – both formal and awkward – is required for authentic gatherings and for serendipitous ideas and activities to emerge (McCowan 2023).

Spaces of learning and inquiry should generally possess qualities of emergence, but similarity can be overplayed. Coherence across the ecological university can be realised only paradoxically, through its attending separately to each of the eight ecosystems and their antagonisms that move within it.

(ii) Is planetary health to be regarded as a revolutionary concept that injects an added urgency to, and a heightened praxis in, the ecological university, which in turn becomes a vital and necessary institution for enhancing planetary health?

Planetary health is inherently a revolutionary concept, being based on an understanding that 'nothing less than a global transformation … is required' (Rockström et al. 2023, 109). In taking up the idea of planetary health, the ecological university confronts ecosystem impairments at a planetary level. It intensifies the university's entanglements with its ecosystem environment. Each of the mega-ecosystems in which the university is implicated has now to be understood as playing out on planetary dimensions. This calling is more than having a global orientation, for the idea of 'planet' enjoins a multiplicity and a wovenness of the natural and the human worlds in all its modes. Planetary health also focuses attention on imbalances *among* the eight ecosystems, and particularly the dominance of the ecosystem of economy, aided by the ecosystem of the polity. Counter-culturally, it places socio-ecological health at its heart and promotes regenerative and redistributive economics instead of growth-supporting economics (Raworth 2017).

Whilst the ecological university is already a revolutionary concept in calling for the university to become another institution, planetary health supplies an intensity, an added urgency and a heightened praxis. It calls for a revolution in all the major institutions, systems and frameworks that form each of the mega-ecosystems in question and presents the ecological university with a challenge to be a social agent of planetary transformation.

It follows that the ecological university must be designed as such, but the matter of university design (Staley 2019) now turns out to be fraught. It is analogous to the project of designing a chronometer in the eighteenth century to enable mariners to determine their location at sea, that is the challenge of securing some point of stability in a moving object on tempestuous waves, pulled this way and that by massive Earthly and heavenly systems. The design of the ecological university against the horizon of planetary health is always difficult, faced as it is by large and antagonistic forces spreading across mega-ecosystems. It is a venture that calls for eternal imaginings, effort, vigilance, courage and adroitness.

(iii) Is the introduction of the concept of planetary health a utopian venture, adding to the utopianism already present in the concept of the ecological university?

Both planetary health and the ecological university possess utopian strains: in each case, utopia is unattainable. In relation to planetary health, it is unattainable because the Earth itself is deeply corrupted – in the formal sense of that term. The Anthropocene – which now characterises the crust of the Earth, not least in its atmospheres, oceans and soils – is a continuing presence. The Earth has slipped into a chronic condition. Much the same can be said of the ecological university: it is utopian in being unattainable. However, the unattainability is so in part because ideas as to what is to count as the wellbeing of its ecosystems are all the time in motion. Ideas of culture, society, the economy, knowledge and learning are both widening *and* narrowing. What it is to be an ecological university is always on the move. The ecological university is always out of reach.

Whilst the ecological university might be ultimately unachievable, it needs a strong regulatory ideal to balance, guide and mediate its actions in practical matters. As observed, there is a variety of sustainability concepts and frameworks with which universities engage, most prominently the UN Sustainable Development Goals. Whilst the tension in the juxtaposition of 'sustainable' and 'development' has given the phrase political and rhetorical salience, that set of planetary goals is recognised as amounting to a 'vague' and 'weak' form of a regulatory ideal (Stables 2012).

Consequently, it has had little impact on human behaviour and its application in higher education has often been reduced to 'greenwashing' (Hughes 2023; McCowan 2023; Stein 2024).

Conclusions

The preceding analysis suggests that planetary health has heuristic value, with powers to guide action and, therefore, constitutes a strong regulatory ideal for the ecological university. With its foundation in ontological realism, planetary health takes on aspects of substance in the realm of world. For the ecological university, planetary health may act as a spur in addressing the ecosystem impairments, even given the latters' scale and range. Planetary health may help the ecological university in engaging with the 'impossibility and fragility' (Stables 2012, 184–5) of humanity's place in the world. It encourages the ecological university to prioritise 'constructive' engagement (Sen 1999) in which it can scrutinise and even refine what planetary health itself means.

To put the matter formally, in comparing the two concepts, that of the ecological university is *supervenient* on that of planetary health. The ecological university is an institutional and pedagogical response to an interest in planetary health. The idea of planetary health is prior to that of the ecological university. Planetary health arises out of a concern that planet Earth is in a state of ill health. The ecological university is a set of ideas suggesting that the university – institutionally and pedagogically – can play a part in ameliorating planetary impairments, and so assist in improving planetary health.

The ecological university is, though, more than a set of theoretical ideas – it also offers a sense of institutional form that can already be glimpsed in places but is not yet fully or wholly realised. We contend, therefore, that the idea of planetary health is not just theoretical but, and more significantly, it could also act as a strong regulatory ideal for the contemporary university with ecological intent. By taking their bearings from the idea of planetary health, universities would begin to face up to their responsibilities and start to play their part in addressing the socio-ecological crises. Nothing short of the existence of planet Earth is at stake (in any recognisable form).

Note

1. Defined by the Planetary Health Alliance as 'a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth'

Disclosure statement

ORCID

Nicola Kemp 🔟 http://orcid.org/0000-0002-0244-9851
Ronald Barnett 🔟 http://orcid.org/0000-0002-6850-7639

References

Bainbridge, Alan. 2024. "Wilding Higher Education: From Monoculture to Messy Margins." In *Good Education in a Fragile World: The Value of a Collaborative and Contextualised Approach to Sustainability in Higher Education*, edited by Alan Bainbridge, and Nicola Kemp, 141–150. London: Routledge.

Bainbridge, Alan, and Nicola Kemp. 2024. *Good Education in a Fragile World: The Value of a Collaborative and Contextualised Approach to Sustainability in Higher Education*. London: Routledge.

Barnett, Ronald. 2000. *Realizing the University in an Age of Supercomplexity*. Buckingham: Open University Press.

Barnett, Ronald. 2011. "The Coming of the Ecological University." *Oxford Review of Education* 37 (4): 439–455. https://doi.org/10.1080/03054985.2011.595550.

Barnett, Ronald. 2013. *Imagining the University*. London: Routledge.

Barnett, Ronald. 2018. *The Ecological University: A Feasible Utopia*. London: Routledge.

Barnett, Ronald. 2024. *Realising the Ecological University: Eight Ecosystems, Their Antagonisms and a Manifesto*. London: Bloomsbury.

Barnett, Ronald, and Søren E. E. Bengtsen. 2020. *Knowledge and the University: Re-Claiming Life*. London: Routledge.

Bateson, Gregory. 2000. *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology*. Chicago: University of Chicago Press.

Bhaskar, Roy, and Mervyn Hartwig. 2010. *The Formation of Critical Realism: A Personal Perspective*. London: Routledge.

Bhaskar, Roy, Karl Georg Hoyer, and Petter Naess. 2012. *Ecophilosophy in a World of Crisis*. London: Routledge.

Braidotti, R. 2013. *The Posthuman*. Cambridge: Polity.

Bukhari, Sayed Adam. 2024. "In What Ways Might the Concept of 'Planetary Health' Lead us to Think Differently About Contemporary Global Challenges? How Could the Resulting Insights Promote the Changing of Current Practices?" *Medicine, Conflict and Survival* 40 (3): 306–315. https://doi.org/10.1080/13623699.2024.2382825.

Butzer, Karl. 2012. "Collapse, Environment, and Society." *Proceedings of the National Academy of Sciences* 109 (10): 3632–3639. https://doi.org/10.1073/pnas.1114845109.

Collett, Guillame. 2021. *Deleuze, Guattari, and the Problem of Transdisciplinarity*. London: Bloomsbury.

Crutzen, Paul, and Eugene Stoermer. 2000. "The Anthropocene." IGBP Newsletter 41, 2000. http://people.whitman.edu/~frierspr/Crutzen%20and%20Stoermer%202000%20Anthropocene%20essay.pdf.

Deleuze, Gilles, and Félix Guattari. 2007. *A Thousand Plateaus: Capitalism and Schizophrenia*. London: Continuum.

Deleuze, Gilles, and Félix Guattari. 2013. *What is Philosophy?* London: Verso.

Descartes, René. 1966 [1637]. *Essential Works of Descartes*. New York: Bantam.

de Sousa Santos, Bonaventura. 2014. *Epistemologies of the South: Justice Against Epistemicide*. London: Routledge.

Downs, Timothy J., Yelena Ogneva-Himmelberger, Morgan Ruelle, Ravi Kumar Hanumantha, Marisa Mazari-Hiriart, Matiana Ramírez-Aguilar, and Carlos Santos-Burgoa. 2022. "Health as a Social-Technical Enterprise Anchored in Socio-Ecological Justice and Stakeholder Collaboration." In *Insights from Mexico-Lerma-Cutzamala Hydrological Region.2 In Handbook of Human and Planetary Health*, edited by Filho. Walter Leal, 241–264. Cham: Springer.

Elo, Merja, Jonne Hytönen, Sanna Karkulehto, Teea Kortetmäki, and Janne S. Kotiaho. 2023. *Interdisciplinary Perspectives on Planetary Well-Being*. London: Routledge.

Gibbs, Paul, and Alison Beavis. 2020. *Contemporary Thinking on Transdisciplinary Knowledge: What Those Who Know, Know*. Cham: Springer.

Guattari, Felix. 2005. *The Three Ecologies*. London: Continuum.

Gupta, Joyeeta, Diana Liverman, Klaudia Prodani, Paulina Aldunce, Xuemei Bai, Wendy Broadgate, Daniel Ciobanu, et al. 2023. "Earth System Justice Needed to Identify and Live Within Earth System Boundaries." *Nature Sustainability* 6:630–638. https://doi.org/10.1038/s41893-023-01064-1.

Guzmán, , Carlos A Faerron, Aguirre, Alonso, Barbara Astle, Enrique Barros, Brett Bayles, Moses Chimbari, Naglaa El-Abbadi, et al. 2021. "A Framework to Guide Planetary Health Education." *The Lancet* 5 (5): e253–e255. https://doi.org/10.1016/S2542-5196(21)00110-8.

Guzmán, Carlos A Faerron, and Teddie Potter. 2021. *The Planetary Health Education Framework*. Washington, DC: Planetary Health Alliance. https://www.planetaryhealthalliance.org/education-framework.

Habermas, Jürgen. 1984. *The Theory of Communicative Action. Reason and the Rationalization of Society*, vol. 1. Cambridge: Polity.

Haraway, Donna J. 2018. *Staying with the Trouble*. Durham, NC: Duke University.

Heller, Richard. 2023. "Reforming Higher Education to Sustain Planetary Health." *The Lancet Planetary Health* 7 (1): 1–2. https://doi.org/10.1016/S2542-5196(22)00216-9.

Horton, Richard, and Selina Lo. 2015. "Planetary Health: A new Science for Exceptional Action." *The Lancet* 386 (10007): 1921–1922. https://doi.org/10.1016/S0140-6736(15)61038-8.

Hughes, Bea. 2023. "Higher Education and Education for Sustainability: Student-led Quality Review in the UK." (2023). https://www.anti-greenwash-education.com/wp-content/uploads/2023/07/FINAL-Student-Led-EfS-Sector-Review-Bea-Hughes-QAA-CEP-Project-June23.pdf.

Kahn, Richard. 2010. *Critical Pedagogy, Ecoliteracy and Planetary Crisis: The Ecopedagogy Movement*. Oxford: Peter Lang.

Kato, Morimichi. 2020. "Armageddon and Pedagogy of Terror." *Educational Philosophy and Theory* 52 (8): 836–837. https://doi.org/10.1080/00131857.2019.1676496.

Kemp, Nicola, and Alan. Bainbridge. 2024. "Good (Higher) Education in a Fragile World." In *Good Education in a Fragile World: The Value of a Collaborative and Contextualised Approach to Sustainability in Higher Education*, edited by Alan Bainbridge, and Nicola Kemp, 181–193. London: Routledge.

Laclau, Ernesto, and Chantal Mouffe. 2001. *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics*. London: Verso.

Latour, Bruno. 2024. *How to Inhabit the Earth: Interviews with Nicolas Truong*. Cambridge: Polity.

Leal Filho, Walter. 2022. *Handbook of Human and Planetary Health*. Cham, Switzerland: Springer Nature.

List, Christian, and Philip. Pettit. 2011. *Group Agency: The Possibility, Design, and Status of Corporate Agents*. Oxford: Oxford University.

McCowan, Tristan. "Tertiary Education and the Sustainability Agenda." Centre for Global Higher Education Working Paper series, 2023.

Meyer, Jan, and Ray Land. 2005. "Threshold Concepts and Troublesome Knowledge (2): Epistemological Considerations and a Conceptual Framework for Teaching and Learning." *Higher Education* 49 (3): 373–388. https://doi.org/10.1007/s10734-004-6779-5.

Misiaskek, Greg William. 2018. *Ecopedagogy: Critical Environmental Teaching for Planetary Justice and Global Sustainable Development*. London: Bloomsbury.

Moran, Joe. 2013. "Let's not turn academia's divine comedy into a tragedy." Times Higher Education. 31 August, 2013.

Nail. 2019. *Thomas. Being and Motion*. Oxford: Oxford University.

Nicolescu, Basarab. 2016. *The Hidden Third*. New York: Quantum Rose.

Raworth, Kate. 2017. *Doughnut Economics: Seven Ways to Think Like a 21st Century Economist*. London: Penguin Random House.

Readings, B. 2017. *The University in Ruins*. Cambridge, MD: Harvard University.

Ripple William J, Wolf Christopher, Gregg Jillian W, Rockström Johan, Newsome Thomas M, Law Beverly E, Marques Luiz, Lenton Timothy M, Xu Chi, Huq Saleemul, Simons Leon, King Sir David Anthony. 2023. "The 2023 State of the Climate Report: Entering Uncharted Territory." *BioScience* 73 (12): 841–850. https://doi.org/10.1093/biosci/biad080.

Rittel, Horst, and Melvin. Webber. 1973. "Dilemmas in a General Theory of Planning." *Policy Sciences* 4 (2): 155–169. https://doi.org/10.1007/BF01405730

Rockström, Johan, Joyeeta Gupta, Dahe Qin, Steven J. Lade, Jesse F. Abrams, Lauren S. Andersen, David I. Armstrong McKay, et al. 2023. "Safe and Just Earth System Boundaries." *Nature* 619 (7968): 102–111. https://doi.org/10.1038/s41586-023-06083-8.

Rockström, Johan, Will Steffen, Kevin Noone, Asa Persson, F Stuart Chaplin III, Eric F Lambin, Timothy M Lenton, et al. 2009. "Planetary Boundaries: Exploring The Safe Operating Space for Humanity." *Ecology and Society* 461: 1–4. https://doi.org/10.1038/461472a.

Roothaan, Angela. 2020. *Indigenous, Modern and Postcolonial Relations to Nature: Negotiating the Environment*. London: Routledge.

Rorty, Richard. 1980. *Philosophy and the Mirror of Nature*. Oxford: Oxford University.

Salonen, Arto O., Juha Hamalainen Erkka Laininen, and Stephen Sterling. 2023. "A Theory of Planetary Social Pedagogy'." *Educational Theory* 73 (4): 615–637. https://doi.org/10.1111/edth.12588.

Schatzki, Theodore R. 2002. *The Site of the Social: A Philosophical Account of the Constitution of Social Life and Change*. University Park, PA: Pennsylvania State University.

Schwittay, Anke. 2021. *Creative Universities: Reimagining Education for Global Challenges and Alternative Futures*. Bristol: Bristol University.

Sen, Amartya. 1999. "Democracy as a Universal Value'." *Journal of Democracy* 10 (3): 3–17. https://doi.org/10.1353/jod.1999.0055.

Stables, Andrew. 2013. "The Unsustainability Imperative? Problems with 'Sustainability' and 'Sustainable Development' as Regulative Ideals." *Environmental Education Research* 19 (2): 177–186. https://doi.org/10.1080/13504622.2012.729813.

Staley, David J. 2019. *Alternative Universities: Speculative Design for Innovation in Higher Education*. Baltimore, MA: Johns Hopkins University.

Stein, Sharon. 2024. "Universities Confronting Climate Change: Beyond Sustainable Development and Solutionism." *Higher Education* 87 (1): 165–183. https://doi.org/10.1007/s10734-023-00999-w.

Stewart, Iain S, Victoria Hurth, and Stephen Sterling. 2022. "Editorial: Re-Purposing Universities for Sustainable Human Progress." *Frontiers in Sustainability* 3. https://doi.org/10.3389/frsus.2022.859393.

Stratford, Robert. J. 2024. "Towards Ecological Everything – The Ecological University, Ecological Subjectivity and the Ecological Curriculum." *Policy Futures in Education* 22 (7): 3338–3356. https://doi.org/10.1177/14782103241227005.

Vanderheiden, Steve. 2017. *Environmental Rights*. London: Routledge.

Vázquez-Martin, Angel Eduardo, Noé Aguilar-Rivera, Julio Díaz-José, Gerardo Torres-Cantú, Pablo Andrés-Meza, and Dora Angelica Avalos-de la Cruz. 2022. "Sustainable Management Model for Native Flora in the Face of Climate Change and Planetary Health." In *Handbook of Human and Planetary Health*, edited by Filho Walter Leal, 13–28. Cham: Springer.

Vereijken, Mayke W. C., Sanne F. Akkerman, Susan F. te Pas, Iris van der Tuin, and Manon Kluijtmans. 2023. ""Undisciplining" Higher Education Without Losing Disciplines: Furthering Transformative Potential for Students." *Higher Education Research & Development* 42 (7): 1762–1775. https://doi.org/10.1080/07294360.2022.2156482.

Whitmee, Sarah, Andy Haines, Frederick Boltz, Anthony D Capon, Braulio Ferreira de Souza Dias, and Alex Ezeh. 2015. "Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation–Lancet Commission on planetary health." Lancet, published online July 16. https://doi.org/10.1016/S0140-6736(15)60901-1.

Zizek, Slavoj. 2009. *The Parallax View*. Cambridge, MA: MIT.