

‘A safe operating space for humanity’: Do people’s beliefs need to change?

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Abstract

The concept of planetary boundaries has taken hold in the global change research community. It offers a powerful narrative for thinking about constraints on large-scale human perturbations to biogeophysical functioning, without appearing to eliminate human agency. It has also been combined (rhetorically at least) with social justice and human well-being. But what force and traction does the idea have in cultural worlds constructed through human beliefs, imagination and practices? In this short talk, and drawing on the ‘environmental turn’ in the humanities, I want to focus attention on the centrality of human beliefs. For a safe (and just) operating space to be maintained do cultural beliefs need to change? If ‘yes’, then who are authorised agents of change: prophets, priests, philosophers, celebrities, artists? The dilemma here is acute and beyond the reach of science or the global change research community. There remains inadequate appreciation of the central role for the humanities in shaping ‘the world we want’.

Preamble

In 2007, physical geographer Simon Donner wrote an article in the journal Climatic Change called 'Domain of the gods'. **SLIDE 2: 'Domain of the gods'**. His argument was that longstanding cultural and religious beliefs held that "*unspecified forces grander than humans control the climate*". He claimed this preternatural earth-sky separation contributed to scepticism about, if not a propensity to disbelieve in, claims from scientists that humans are now influencing the weather – the idea of anthropogenic global warming. Donner followed this up two years ago with further reflections on his argument, calling for humility on the part of scientists and educators. "*Climate scientists*", he said, "*need to accept that there are rational cultural, religious, and historical reasons why the public may fail to believe that anthropogenic climate change is real, let alone that it warrants a policy response*" (Donner, 2011: 1300).

In this talk I want to explore Donner's argument further, but today in relation to the iconic idea of planetary boundaries. I want to ask the question: 'What cosmologies and narratives are bound up with the claim to be able to define "*a safe operating space for humanity*"?' 'And what happens when such bold claims come into contact with cultural and religious beliefs which might offer different ethical accounts of human freedom?' 'How do we understand such situations of conflict and how do we work creatively with them?'

These questions about the meeting of scientific knowledge and cultural beliefs underlie all global change research to a greater or lesser extent and yet they are questions rarely considered, or at least rarely studied, by this community. I suggest this is because even to make sense of such questions demands the insight and experience of humanities disciplines and scholars, not notably represented at meetings or networks such as this!

Planetary Boundaries

Over the last four years, the concept of planetary boundaries has circulated widely in the worlds of global change research and policy. [As we have seen from Johann Rockström's talk]. It offers a powerful narrative – as we shall see I use this word deliberately - for thinking about ways of circumscribing human perturbations to global biogeophysical functioning. And it does so without appearing to eliminate human agency. With the idea of planetary boundaries the

claim is made not just that humans have invaded the domain of the weather gods, but that humans are in danger of re-making the planet in ways not conducive to human survival. **SLIDE 3: Boundary transgressions.** It is argued that, already, the boundaries of 'safe' climate change, biodiversity loss and nitrogen cycle disruption have been transgressed. Planetary boundaries are brought to life and reified through new forms of visual representation, such as those shown here: radar screens and danger-ometers.

One critique of the original planetary boundary formulation is that there are other things besides safety that matter to humans ... for example we care about justice and happiness. So some—notably Kate Raworth of Oxfam--have adapted planetary boundaries to define what has instead been called '*a safe and just operating space for humanity*'. Attention here is paid to some of the human and social dimensions of well-being, for example as represented by the Millennium Development Goals. **SLIDE 4: Critique – social justice.** In Raworth's doughnut, these 11 critical human deprivations were derived from governments' submissions to Rio+20. In the case of human welfare, rather than transgressing boundaries we have regressed well below what are deemed critical levels: for example 13% of the human population continue to face hunger; 19% need electricity; and 30% are without adequate basic health care.

Challenging Beliefs

I do not want today to critique the idea of planetary boundaries, and its extensions; although such an ambitious account of human living surely does need critique. Rather, I want to go beyond Raworth's extension of the original 'safe spaces' of planetary boundaries and ask: 'What happens when these guiding narratives from planetary science interact with cultural and personal beliefs?' 'What force and traction do they have within cultural worlds constructed through human imaginations, practices and rituals?' As Donner asked with regard to human influences on the weather, so I ask with respect to these diagrammatic representations of the guiding hand of Earth System science – 'Are people's contrarian beliefs to be respected or are they to be challenged?' 'And if they are to be challenged, then who are the agents that are authorised to issue the challenge: prophets, priests, philosophers? artists, celebrities,

scientists?'

These questions are unavoidable and yet their answer is beyond the reach of Earth System science. So, drawing on the 'environmental turn' in the humanities, I want to argue for the centrality of the human imagination, and the cosmologies it invents and the stories that it tells, when considering the appropriateness of human actions within the Earth System. The humanities then become central for reflecting on the responsibilities of Anthropos in the Anthropocene. **SLIDE 5: Anthropos in the Anthropocene.**

Cosmologies and Narratives

To do this we need to think on a grander scale and so I start with the idea of cosmologies, metaphors and myths. Humans have been concerned with imagining their place in the known universe since the earliest traces of human culture and art. Different cosmologies – from Neolithic to Egyptian to modern European – have sought to bring order and meaning to a bewildering and uncertain existence.

The late C S Lewis, professor of medieval and renaissance literature at the universities of Oxford and Cambridge, wonderfully described one such cosmology in his 1964 book The Discarded Image: An Introduction to Medieval and Renaissance Literature. **SLIDE 6: Medieval cosmologies.** Lewis deals with cosmology and the Ptolemaic universe, the "model" of the world used by the medievals. This cosmology includes the structure of the medieval universe, the nature of its inhabitants, the notion of a finite universe ordered and maintained by a celestial hierarchy, and the ideas of nature. He explains how theology, science and history was organised into a single, complex, harmonious mental model of the universe.

During the 17C and 18C, Europeans self-consciously began to reject such an ordering of the universe. Enlightened science found no place for angels, fairies and devils, nor for the immanence of God. Instead a disenchanted universe came to be understood as machine-like - **SLIDE 7: Modern cosmologies** - with physical entities moving like clockwork, blindly following the laws of mathematics. Yet by the 20C the same ruthless empiricism had re-written this early enlightenment cosmology. Rather than being mechanical and predictable, the universe became understood in terms of relative states and movements and characterised by irreducible

indeterminacy.

My general point is that these larger schemes of how we believe the world to be – whether primitive, classical, medieval or enlightened cosmologies – inevitably come to shape our view of human agency in the world. Lewis again: *“In every age the human mind is deeply influenced by the accepted Model of the universe. But there is two-way traffic; the Model is also influenced by the prevailing temper of mind”* (Lewis, 1964: 222). Cosmologies are ordering devices without which we are lost and blind.

And while we may situate these different cosmologies in chronological time, one replacing another, they continue to co-exist – medieval, deterministic and relativist cosmologies all live on in the contemporary world. Some of the pinnacles of medieval thought (some of them inherited from Classical Paganism) have survived into the present cultural and theological landscape. As Bruno Latour observed 20 years ago, *‘We have never been modern’*.

To adequately engage with the human imagination we need be aware not just of cosmologies, but also of the centrality of metaphor in acts of explanation and communication. We can see this if we reflect on the new techno-scientific explorations being undertaken of our interior human worlds. **SLIDE 8: The modernist self-image.** There we find genes that are, seemingly, selfish and there we observe decisions that are, seemingly, hard-wired. (We are then left to grapple with the significance of such seeming discoveries for human will and freedom.)

But the rather disturbing genes which are selfish no more exist than does the more comforting Earth which is mother-like. **SLIDE 9a: Metaphor.** Selfish genes and Earth mothers are both metaphors. Metaphors are the very necessary ways human use language to represent the unfamiliar in terms of the familiar. But they are only suggestive, not literal. Metaphors abandon the pretence that we can describe things as ‘they truly are’ from a God’s-eye point of view; rather they concede that we can only see the world around us and inside us from a human-eye view.

Consequently, metaphors are never innocent. They are ‘performative’ – they powerfully influence our interpretations of reality. As metaphors circulate around our different social and cultural worlds they exercise huge influence on how we believe reality to be. This is

as true of our engagement with the planet as it is with our own bodies. **SLIDE 9b: Metaphor.** Is the Earth a spaceship to be steered on a journey, an Earth mother with which we must bond or, careful here, a dashboard with dials to be managed so that the indicators are kept out of the red zone? [Here were some of the metaphors with Rockström used in his talk yesterday (my italics): '*Mother Earth*'; '*Spaceship Earth*'; 'under the *hood* of the Earth System'; 'hit the *ceiling* of the *hard-wired* Earth System processes'; 'Earth System presenting us with *invoices* to be paid'; 'humanity has reached the *saturation point*'; '*Tipping Points* in the Earth System'; 'Earth System using the *palette* of biomes and systems'; 'Earth System starting its *engine* of positive feedbacks'; 'the planetary *ceiling* and the social *floor*'].

We need to choose our metaphors carefully – as Brendon Larsen has shown beautifully in his book Metaphors for Environmental Sustainability: Re-defining our Relationship with Nature. **SLIDE 10: Metaphors perform.** He shows, for example, how the metaphor of bar-coding as a way of representing the identification of species according to their DNA, contributes to a commodification of human relationships with animals. And how the metaphor of the selfish gene changes the way we think about human self-image and ethical behaviour. Metaphors cannot be discovered, only invented. And we need to be careful with our inventions – and take responsibility for them.

It is through metaphor that mythos (the appeal to meaningful stories) and logos (the appeal to rational thought) come together. And mythos and logos are then held together through narrative. **SLIDE 11: Mythos, logos and narrative.** Narratives organise and convey our cosmologies, our metaphors, our myths and our knowledge. Most people make sense of reality through narrative – their search for meaning; bringing order to the unruly future. Narratives achieve things which science alone cannot do, as recognised here by the Alliance for Religion and Conservation:

*“The emphasis on [science], consumption, economics and policy usually fails to engage people at any deep level because **it does not address the narrative, the mythological, the metaphorical** or the existence of memories of past disasters and the way out. The faiths are the holders of these areas and without them, policies will have very few real roots ...”*
[ARC, 2007]

Making Sense of Planetary Boundaries

So let me now return to the idea of planetary boundaries and the safe operating space for humanity. I am asking: 'What sort of a thing are planetary boundaries? Are they offering us a new cosmology, a new way of ordering reality? Is the idea of planetary boundaries merely suggestive; a metaphor to help make familiar what is unfamiliar? Or can we engage with planetary boundaries as a new narrative which seeks to give shape and meaning to human lives on Earth?' However we conceive of planetary boundaries, they enter into cultural worlds which are already full of powerful, swirling and competing cosmologies and narratives. They will meet resistance and challenge.

And it is because of this resistance that as global change researchers we need to start engaging with and learning from scholars and scholarship in the humanities. Whatever creative potential the idea of planetary boundaries may have will not be fully realised through the sorts of innovations which are typically called for by the global change community.

Let us look at the two most standard responses: (a) the call for new knowledge systems; **SLIDE 12a: What needs to change?** and/or (b) the call for new governance systems.

In recent work emanating from the ESF's RESCUE project (Responses to Environmental and Societal Challenges to our Unstable Earth) [Note the salvation narrative of the acronym!], we find Sarah Cornell and colleagues (2013) arguing for the '*opening up of knowledge systems*' to '*ensure effective interfacing arrangements for translating knowledge to action*'. But in this account there is no engagement with the humanities, no concession to understanding processes of belief formation or cultural identity. In the same project we find David Tabara and Ilan Chabay (2013) going somewhat further in calling for coupling of Human Information and Knowledge Systems (HIKS) with socio-ecological systems (SES) dynamics. They do engage with culture, but seem to approach and analyse it through the lens of systems theory.

Or take the flagship Earth System Governance Project from IHDP. **SLIDE 12b: What needs to change?** Biermann et al. (2012) call for "*a fundamental reorientation and restructuring of national and international institutions towards more effective Earth system governance and planetary stewardship*" (p.1306). And while they call for 'changes in the behaviour of citizens' they seem strangely reticent to enter into the worlds of culture, religion

and belief.

These partial and hesitant responses are also reflected in recent institutional programmes dealing with global change. **SLIDE 13: institutional programmes.** For example, the Future Earth Initiative (2012) states that “*Future Earth will transform the way of doing research, bringing together different fields of science, linking global environmental change research to development concerns and delivering knowledge to support solutions.*” Or the International Social Science Council (2012) “*challenges the social sciences to take the lead in developing a new integrated, transformative science of global change.*” And the Belmont Forum (2011) calls for “*Transdisciplinary collaboration to address the coupled environmental and socio-economic solutions to environmental change.*” Absent in all these cases is an embracing of the humanities and a direct engagement with human beliefs and belief systems.

So if knowledge systems and Earth System governance are insufficient to engage with the challenges placed in front of us by the idea of planetary boundaries, what else is there? What will contribute to “*The larger conceptual task*” which anthropologist Gisli Palsson and colleagues claim “*remains [to be done] to reframe Anthropos for the modern context*” (Palsson et al., 2013: 2).

Reframing *Anthropos* (re-thinking the human we might say) is not just about integrated or opened-up knowledge systems. Nor is it about finding new institutions of governance. I would contend it requires an examination of our own cosmologies, much in the way that Bruno Latour is doing in his *Inquiry into Modes of Existence* at Sciences Po in Paris. **SLIDE 14a: transformations.** For Latour, this requires anthropological, philosophical and theological investigation into multiple rationalities and cultural beliefs, a form of post-secular investigation that late-moderns are very reluctant to engage in.

It is perhaps also related to the voices calling for the study of personal and cultural transformation. For example, in a series of recent papers and meetings Karen O’Brien has argued that the idea of transformation [**SLIDE 14b: transformations**],

“includes the capacity to become critically aware of one’s own assumptions (and those of others), the capacity for critical reflection and open-mindedness, and the capacity to take in multiple perspectives and viewpoints, including those that challenge prevailing norms and interests. This involves the recognition and integration of subjective and objective

realities and multiple types of knowledge, which depends on insights from the social sciences, humanities and natural sciences” (O’Brien, 2012, 673).

This approach for example has inspired the upcoming International Conference on Transformation in a Changing Climate at the University of Oslo, 19-21 June.

The *Telos* of *Anthropos*

So, in conclusion, if the idea of planetary boundaries pays deference to ultimate biogeophysical limits, then should we also not be concerned to articulate ultimate human purposes? I’m not sure this perspective is exactly what underlies the global conversation about ‘the world we want’ which was an outcome of Rio+20 - **SLIDE 15: ‘The world we want’?** - but perhaps it is at least a step in the right direction.

What then is the *telos* of *Anthropos*? What is the goal of Man - or ‘the aspirations of all citizens’ as Rio+20 puts it? Is it in fact about (human) survival – at any cost? Is it about sustained economic growth? Is it about social justice or some notion of ensuring political freedom for all? Is it about maximising human longevity?

Maybe we need a more explicit Aristotelian contemplation on the good life: the nature of well-being and the exercise of virtue. Maybe it should be less about ‘the world we want’ than about ‘the people we want to be’.

It certainly suggests the need to go well beyond the capabilities of integrated knowledge systems or the processes of Earth system governance. As the RESCUE project did indeed recognise, the issues about human life on a changing planet are firstly humanistic and not scientific¹. The Anthropocene, they concluded, “*creates a completely novel situation posing fundamentally new questions, including issues related to ethics, culture, religion and human rights, and requiring new approaches and ways of thinking, understanding and acting*” (p.13).

This then is a call to appreciate the insights of the humanities, to introduce a humanistic perspective into global change research. It is about understanding and cultivating the human

¹ ESF – RESCUE (2012: 14): “Social science and humanities research should now feed deeply into global change research to further our understanding of human-environment interaction. This should include scholars dealing with ethics, culture, religion and legal issues. This would also open up new areas and new ways of interdisciplinary collaboration between (already interdisciplinary) global change research and fields not yet involved.”

imagination, as much as it is about applying the instruments of reason. To quote again from C S Lewis **[SLIDE 16: C S Lewis]**:

“For me, reason is the natural organ of truth; but imagination is the organ of meaning. Imagination, producing new metaphors or revivifying old, is not the cause of truth, but its condition.” [C S Lewis, in Selected literary essays, 1969, (ed.) W.Hooper, p.265]

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SLIDE 17: Mike Hulme