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### Coproducing global change research and geography: the means and ends of engagement

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# Coproducing global change research and geography: the means and ends of engagement

## Abstract

This response identifies three areas of agreement with my interlocutors. One is the importance of global change science now and in the future; a second is the real capacity that geographers possess to shape the content and direction of global change science, building on past achievements; and the third is the existence of 'group think' in parts of global change science, presenting a target for constructive criticism but also an opportunity for serious engagement. The response then addresses specific points raised in the five commentaries. These points pertain to the burden of academic responsibility, the political aims of 'Changing the Anthro(s)cene', the power of reason, the virtues of working 'inside' global change science, the volume and kind of contributions made by geographers so far and - finally - the dilemmas of engaging global change science as critic or friend.

## Keywords

research, geography, means, ends, engagement, coproducing, global, change

## Disciplines

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# **Coproducing global change research and Geography: the means and ends of engagement**

**Noel Castree, University of Manchester, England, and University of Wollongong, Australia**

## **Abstract**

This response identifies three areas of agreement with my interlocutors. One is the importance of global change science now and in the future; a second is the real capacity geographers possess to shape the content and direction of global change science, building on past achievements; and the third is existence of 'group think' in parts of global change science, presenting a target for constructive criticism but also an opportunity for serious engagement. The response then addresses specific points raised in the five commentaries. These points pertain to the burden of academic responsibility, the political aims of 'Changing the Anthro(s)cene', the power of reason, the virtues of working 'inside' global change science, the volume and kind of contributions made by geographers so far, and – finally – the dilemmas of engaging global change science as critic or friend.

**Keywords** Global environmental change; epistemic communities; politics of knowledge; coproduction

## **Introduction**

'Changing the Anthro(s)cene' explores the relationships between Geography and global change science (GCS). This is a febrile and formative moment in the evolution of the latter. My essay asks how current changes to GCS might speak to geographers and how geographers might speak back to GCS. The question seems timely for two reasons. First, a number of geographers (or people currently located in schools and departments of geography – not always the same thing) have been involved in parts of the large and complex world of GCS for some years now. Second, the changes afoot in GCS are arguably more relevant to Geography than any other discipline. For instance, consider the numerous calls for researchers to address the 'social heart of global environmental change' (Hackmann *et al.*, 2014; Siedl *et al.*, 2012; Tavoni & Levin, 2014; Victor, 2015; Weaver *et al.*, 2014). Geography has rich and varied traditions of society-nature research that intersect directly with such calls. As an 'outsider' to GCS, but someone who has contributed to some of those traditions, my concern is two-fold. Can and should those geographers already involved in GCS do things differently, building on past achievements?; and should those of us not yet involved consider ways and means of 'changing

the intellectual climate' prevailing in the various nodes, institutions and networks that comprise GCS? These are large questions, far easier to pose than answer. A lone investigator like myself certainly cannot do them justice, and this explains the schematic and suggestive qualities of 'Changing the Anthro(s)cene'. I am therefore grateful to Rob Kitchin for commissioning such a diverse set of commentaries from geographers who view GCS and Geography from different perspectives born of experience. I am equally indebted to the commentators for taking the time to respond so thoughtfully. Together they amend, qualify and challenge aspects of my argument. Before I respond to their welcome correctives, let me note some important areas of agreement between us.

### **Common ground**

The first one is that whether you sit within or outside GCS, the intellectual and institutional changes it will undergo in the years ahead will be globally consequential – one way or the other. Anyone with a serious interest in human-environment relations should care about the course GCS takes. The reasons why are obvious. Not only do global change researchers enjoy an extraordinary epistemological privilege, speaking about and for the spatio-temporal dynamics of an Earth transformed by human action. They also, through things like the IPCC, the IPBES and the Sustainable Development Solutions Network, interface with the world of high-level decision making – be it the United Nations, national government departments or elsewhere. Steve Fuller captures the potential power of GCS well in this shrewd observation about science in all its contemporary forms:

Science is a representative body in which the few speak for the many ...  
Yet there is no parliament of scientists ... Science governs and is governed  
without being formally constituted as a government ..." (2000: 8).

I say potential, of course, because an anxiety many global change researchers share is their current *lack* of sufficient influence on politics, commerce and civil society. The changes to GCS many practitioners are calling for are precisely an attempt to close the much lamented 'sustainability gap' (Fischer *et al.*, 2007).

If these calls are heeded then, in some way, GCS will help to 'coproduce' a different socio-environmental order. As Sheila Jasanoff (2012: 19) argues, "It is impossible to keep apart judgements of how to know the world in order to govern it from concomitant judgements about how best to govern the world as we know it". This being so, a more influential GCS could serve to (i)

entrench the political economic and cultural *status quo* in the guise of pushing for mild or strong reform, or (ii) challenge our 'post-political' condition by being allied with new social movements, grass-roots protest groups and others in the way Naomi Klein (2014), somewhat hopefully, envisages. Either way, GCS will make its presence felt – insufficiently so, too much or just enough depending on the political predilections of those judging it.

Secondly, my interlocutors and I seem to agree that geographers really can make a difference to the future course of GCS in this 'fork in the road' moment in its evolution. Though we might disagree on where, when and how a difference can be made, it is pleasing to note a shared belief that our voices might be (are being?) heard in the wider world of GCS. This confidence, I surmise, arises from a couple of things. One is the length, quality and high-profile of some Anglophone geographers' involvements in GCS, be they Neil Adger in the UK, Diana Liverman in the USA or Karen O'Brien in Norway. Another is the weight and diversity of society-environment inquiry in Geography at large: the amount of interesting research being undertaken in the marchlands between physical and human geography is arguably unprecedented in Geography's long history. If geographers have, over the years, sometimes had problems communicating their discipline's importance to others, GCS seems to present no such difficulties. The 'opportunity challenge' is to determine what to contribute, strategically and tactically, to which parts of the changing world of GCS.

As I argue in 'Changing the Anthro(s)cene', my own hope is that any contributions should avoid being piecemeal or reactive where possible. They should also – ideally – be underpinned by a clear philosophy of knowledge. For instance, if you assume there is one complex and dynamic world out there, then geographical knowledge is useful because it is integrative, offering a necessarily wide-angle lens on the multifaceted realities of global environmental change. However, if you assume that 'reality' is always already interpretively framed, and recognise the plurality and mutability of frames (academic ones among them), then geographical knowledge can claim no such epistemological privileges. Instead, it acknowledges its part in the process of purposefully coproducing new worlds, or else in sustaining existing worlds at the expense of others. In this light, one strategic choice is whether to challenge the 'facts-and-action' notion of 'relevant research' and key-in to the idea that GCS should serve to open-up big questions about the future we want our descendants to inherit (cf. Stirling, 2012). Making good on unconventional choices is very hard

work indeed, especially when engaging others who are habituated to entirely different intellectual practices.

This brings me to a third point of agreement, and I confess a degree of surprise that none of the commentators took issue with me on this score. 'Changing the Anthro(s)cene' suggests there is a degree of group-think among thought-leaders in GCS. At first hearing, this proposition seems rather far-fetched. After all, GCS is comprised of a great many different individuals, groups, projects and universities spanning every environment-related science, and reaching into parts of social science. It is also globally distributed in uneven ways, with far-flung centres and hot-spots like Stockholm, Potsdam, Canberra, Norwich and Boulder. Yet I suggest in my paper that many practitioners are singing from the same song sheet. This is evident in the many calls – issued by all sorts of otherwise different people located in different places – for GCS to become more 'actionable' and 'decision-relevant'. These calls almost never substantively acknowledge the political role of research 'upstream' as well as 'downstream' of inquiry. Instead, they assume that the challenge is to ensure GCS achieves a 'better fit' with socio-environmental realities, albeit framed by the general conviction these realities must be changed before we humans wave goodbye to the Holocene forever. Similarly, calls for a 'new social contract' for GCS do not depart from Jane Lubchenco's (1999) rather narrow framing of its meaning (see Folke *et al.*, 2011; WBGU, 2011; DeFries *et al.*, 2012; Brito & Stafford-Smith, 2012; Stafford-Smith *et al.*, 2012).

That such widely held assumptions exist in an otherwise differentiated and distantiated community of global scientists is, in fact, no surprise. The many projects conducted under the auspices of the four global environmental change programmes, and those now continuing within Future Earth and the WCRP; the numerous engagements of working group members of the IPCC over the years; the networks that sustain the IPBES and its forerunners like the Millennium Ecosystem Assessment: these and other arenas have enabled sustained exchange – face-to-face and virtual – between a great many global change scientists. For instance, they underpin the sort of repeat collaborations we see in the multi-authored papers published since 2009 on planetary boundaries and the Great Acceleration (Rockström *et al.*, 2009; Steffen *et al.*, 2011; Steffen *et al.*, 2015).

## Questions and responses

Let me now address the particular points raised, and claims made, by my interlocutors. In his eloquent commentary, Andrew Baldwin identifies three limitations to my argument. First, he suggests I risk placing the burden of responsibility for changing the academic habitus too much on critical geographers who currently sit outside GCS. Why do I not hold thought-shapers in GCS more to account? In fact, I have tried to do that elsewhere – in the pages of *Nature Climate Change* (Castree *et al.*, 2014; Castree, 2015).

Looking ahead, I aim to revisit the new social contract idea and show what an alternative contract could mean for GCS. I hope to publish it in a journal that's widely read by geoscientists and 'science-minded' environmental social scientists (such as *Current Opinion in Environment & Sustainability*). But the good news is that 'people like us' are already thought-shapers in the world of GCS, albeit currently in a minority. Karen O'Brien and Melissa Leach, both members of Future Earth's science committee, are notable examples. O'Brien has repeatedly made the case that allies need to step forward in order to realise the radical normative potential contained in GCS (2011; 2012; 2013a; 2013b; 2013c).

We should, I think, heed O'Brien's call for a number of reasons. One is that there is force in numbers: people tend to listen to a chorus but can ignore what might otherwise appear as lone voices performing solo acts. Another is that a fair bit of potentially relevant society-nature scholarship in the social sciences and humanities is limiting its audience potential. For instance, a slew of interesting papers that develop, critique and operationalise the notion of 'post-politics' in the context of climate change policy appear mostly in places where they can be safely ignored by most global change scientists. Why not engage more directly the nodes, networks and journals that are central to GCS? Isn't disengagement itself contributory to post-politics, even as it offers the critical distance necessary for post-politics to be identified and questioned? Andrew is certainly right that engagement can be tricky in practice. But senior people in GCS do need others beyond to join the fray if the whole enterprise is to be steered in genuinely new directions. Otherwise, the pace and direction of change in group-think will probably remain slow and linear.

Secondly, Andrew rightly asks me to come clean about the 'political unconscious' that lurks beneath my argument. As he notes, I have long been persuaded that Marxist political economy is a necessary (though not sufficient) framework for understanding modern life. In her book *This changes everything*,

Naomi Klein (2014) connects a Marxist analysis of our neoliberal world order with contemporary climate science. Both are radical in their normative implications, and their practical realisation will – she hopes – come about through people power of the sort recently exemplified by the Occupy movement. Though I personally endorse Klein's attempt to hitch the cart of climate science to a socialist-feminist political horse, my political agenda in 'Changing the Anthro(s)cene' is less partisan. My key goal is to push GCS beyond being an instrument for better decision-making in a world experiencing unprecedented socio-environmental. GCS – like *all* major branches of contemporary science (private and public) – should be central to fostering *deliberation* about the world as it appears to be and as we would like it to be. My 'first order' political argument, then, is that any new social contract for GCS must take seriously the links between research, democracy and choice in a world of diversity and inequality. To truly fulfil its public role, GCS can neither bracket question of politics, power and values nor (as Klein would have it) be seen to support one or other programme for socio-environmental change.

Thirdly, Andrew believes I risk naivety by placing my faith in the power of reason to engender cognitive, emotional and (ultimately) practical change within and without academia. I certainly do acknowledge that the ample use of reason this last 30 years (scientific, moral and spiritual) has – to play on the title of Klein's book – changed virtually *nothing* when it comes to human-environment relations. A dismal adjunct to this has been the deliberate misuse of reason by many a climate-change sceptic (seemingly a hallmark of public life in the USA during the two presidencies of George Bush Jnr.) I also worry that political sociologist Ingolfur Bludhorn (2015) is right to predict the perpetuation of mass denial. Bludhorn's disturbing analysis suggests that escalating rhetoric about the need to 'tackle' the 'grand challenges' presented by global environmental change is just that: hot air intended to fool us into believing we're acting, while we secretly hope future generations will do the hard work of dealing with our sorry bequest. Even so, I do believe in the power of reason – so long as we agree that reason extends beyond rationality and cognition. As Andrew Sayer (2011) has argued persuasively, reasoning well in the modern world requires the input of scientists, but also needs ethicists, cultural critics, religious spokespeople and others. In the case of GCS, what is required are new arenas where scientific findings can articulate with a wide range of reasoned (and impassioned) cases for a different world (on which see



Corner & Groves, 2014). What is needed too is a new mode of reasoning that avoids the antinomies of scientised normative arguments and scientific claims said to be 'biased' by undeclared political commitments ('politicised science')

Unlike me, Mike Hulme has long experience working in certain parts of the wider world of GCS. His trajectory out of GCS and back in to Geography is noteworthy. I accept his argument that intellectual change happens in many different places and can have consequences beyond those places too. But I am not presenting an either/or choice for geographers in my article. Moreover, I am more persuaded than he is that engaging the key nodes and networks of GCS is possible and desirable. To reiterate an earlier point: GCS is currently morphing in ways that suggest real openings for alternative voices and arguments. For instance, compared to 30 years ago when Mike began his career, the rhetoric coming from some established organisations and people in contemporary GCS is positively radical. A shining example is the World Social Science Report of 2013 (ISSC & UNESCO, 2013), which has partly set the agenda for Future Earth.<sup>1</sup>

Like Mike, Robin Leichenko and Ana Maria Mahecha Groot possess insider knowledge. They tell a story of multiple geographers making a range of important and often sustained contributions to global change research. They evidence some of the collaborations, mentoring and sheer hard work involved; they also note how geographers have been key conduits for critical thinking while highlighting the prominent role played by female geographers in parts of GCS. I cannot gainsay their analysis. But I do stand by one point they seek to challenge. The number of geographers actively involved in the interdisciplinary fora, programmes, institutes etc. that make-up GCS is relatively small in comparison to the number of society-nature geographers conducting interesting research in Geography at large. In my paper, I aim not so much to call-out people like Robin and Ana Maria as to challenge outsiders to consider how their often creative inquiries – working interstitially between Geography's science, social science and humanities traditions – might influence GCS. Here I note that other insiders have identified the need to further open-up GCS, notwithstanding the valuable contributions some geographers have made to date (see O'Brien and Barnett, 2013; Liverman & Roman Cuesta, 2008; Manuel-Navarrete, 2014; Tschakert (2013).

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<sup>1</sup>A number of geographers contributed invited chapters to this volume, including Andrew Baldwin and my Wollongong colleagues Lesley Head and Chris Gibson.

Sam Randalls rightly reminds me that the Anthro(s)cene is plural and should remain so. But it could, he implies, be far less multi-stranded looking ahead if various geoscientists get to script the public meanings of global environmental change for politicians, business leaders and civil society actors. He and Lauren Rickards here hit upon a key issue that I underplay in my paper: how precisely should someone like me engage with geoscientists given the polar risks of critique-from-afar and unthinking acceptance of some geoscientists' epochal claims? I confess I don't know the answer. The uncertainty leads to a dilemma. For instance, a critic of Anthropocene science like Eileen Crist (2013) need pull no punches, but at the high price of relevance. It's hard to imagine any practising geoscientist knowing what to do with her scathing take-home messages about dispassionate scientific reason and the disenchantment of the world. On the other hand, Naomi Klein (2014) exemplifies the alternative stance. She accepts GCS rather uncritically, underplaying the contingent and partial character of the current and predicted global 'realities' it (re)presents in various papers, reports and press releases. Is there a way to navigate between these positions so that environmental social scientists and environmental humanists can be a critical but constructive force in GCS? I obviously hope so and believe geographers might be key players in this endeavour.

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