

# The Paleoenvironmental Humanities

## Climate Narratives, Public Scholarship, and Deep Futures

Andrew P. Roddick

In his keynote, Felix Riede explores how archaeology might contribute to the environmental humanities, an arena he has recently entered with his new position at Aarhus University. Riede reviews the development of this relatively new interdisciplinary engagement and its contribution to climate change discussions. He suggests that we all should be involved in this conversation no matter our particular archaeological theoretical orientation. I particularly appreciate his position on the importance of narratives, his argument that deep human pasts must be foregrounded in current discussions of climate, and his view that strong, empirical evidence (particularly the kind produced in environmental archaeology) should be emphasized in these ongoing interdisciplinary discussions.

In this commentary, I consider how the environmental humanities could contribute to discussions of the climate crisis beyond our disciplinary spaces and our university settings. My response stems from non-European contexts. I am based in an anthropology department at a Canadian university, and conduct archaeological fieldwork in the Bolivian Andes, a region that is undergoing rapid climate-based changes. Concerns about climate futures permeate my conversations with Canadian students, where my teaching about the dynamics of past landscapes has gained new relevance in recent

---

Department of Anthropology, McMaster University  
Email: roddick@mcmaster.ca

years, and with farmers in the *altiplano* of the Lake Titicaca Basin, who are observing vanishing glaciers and dealing with more frequent (and less predictable) droughts. As such, I'd like to further query how the (palaeo-) environmental humanities might be transformed not only through disciplinary archaeological practice but also through consideration of those we work with and for ('stakeholders'). I'd also like to consider further the relationship of these interdisciplinary conversations in terms of social transmission and futurities.

Riede begins his paper with a brief history of the environmental humanities, highlighting the absence of archaeology in the ongoing dialogues between humanities disciplines such as literature, sociology, and philosophy (among others). He questions our own sub-disciplinary silos, suggesting that environmental archaeologists tend to work in deep prehistory, whereas those working in the recent past and present tend to neglect human:environment relationships. I think perhaps he overstates such a division. I see many of the more exciting areas of research not falling into such categorization. (And what of the various political ecology-driven studies of both the recent and deeper past?). Nevertheless, I find his argument for including the 'palaeo' in the environmental humanities compelling, a move that, among other things, might problematize our rather dystopian belief that late capitalism is our only option. I can see many of the advantages of being part of these larger conversations, and certainly the appeal of interdisciplinary funding. But just as efforts by the IPCC have not 'led to appreciable behavioural changes', I do wonder whether new intellectual collaborations might suffer from similar issues of relevance, particularly if we do not rethink our way of working not just inside the walls of academia, but also beyond the university.

Riede does briefly suggest that the environmental humanities might encourage us to engage wider publics. Certainly, his own work in the Coast to Coast Climate Challenge project and at the lignite mining site of Søby shows the considerable value in engaging broader communities beyond academia. Did an environmental humanities framing change the narratives for the public in either context? In confining our thinking about our relevance from within (and across) disciplinary boundaries, are we missing the opportunity to conduct a truly politically engaged archaeology? For Wurst and Mrozowski (2014:214), such an archaeology requires us to articulate clearly what kind of change we want to bring about. What kind of change do we want to effect in terms of the climate crisis? Does working within the environmental humanities – or any other new subdisciplines for archaeology – help produce that agenda? This is an important question, particularly since others have suggested that instead we consider 'un-disciplining archaeology', a decolonizing project that requires not new academic con-

versations, but rather a new kind of public intellectual who is engaged with a wide range of publics (Haber 2012; Wurst in press).

The engagement of our various publics has long been a difficulty for archaeology, yet it is perhaps most apparent in the climate crisis. Riede suggests there is a consensus in Europe that climate change is occurring. In Canada and the United States, however, climate denial is still driving many policy decisions. This is most explicit in the ‘post-truth’ US, with the nefarious actions of the Trump administration, but is also seen in the climate contradictions of the Trudeau government, which is wielding rhetorics of social and economic transformation but still acting an awful lot like a petrostate. This means that North America is a context where academic positions on climate change are sometimes muted outside the academy. For example, in her recent retirement from her position of National Park Service (NPS) Climate Change Adaptation Coordinator for Cultural Resources, Marcy Rockman (2018) complained that she spent time and energy fighting for the ‘right to exist’, hindering her ability to share climate narratives with the US public.

My experience of climate discussions and heritage in Bolivia are different. Bolivia is a place where human-caused climate change is very apparent, yet where paradoxes between political rhetoric and climate action abound (Aguirre & Cooper 2010). Climate change was already impacting local rural communities when academics were debating environmental determinism in the deeper Andean past (Erickson 1999; Kolata 2000). Rapidly melting glaciers are causing particular concerns about water security. A recent report (Johansen et al. 2018) suggests that glacial meltwater provides 61 per cent of the available water supply in La Paz, but in drought years it contributes up to 85 per cent. Yet current predictions see the loss of almost all Bolivian rock glaciers by 2099, a change that will impact all (as seen in the water shortages of 2016), but particularly the urban and rural indigenous poor.

This report argues for governments to engage these same vulnerable indigenous populations for their knowledge systems as a source of information. Clearly anthropologists and archaeologists who have worked within such communities for generations have a role to play here. But this Traditional Ecological Knowledge (TEK) position is rather limited, particularly in face of the climate crisis. Our work in non-western settings challenges so many of our taken-for-granted, whether it be progressive tropes of evolution and capitalism, or the common-sense nature:culture dichotomy. Archaeologists must develop our ontological politics to challenge established forms of thinking, including those related to climate processes and political ecologies (Harrison 2016:172). We might consider one of the main takeaways from Richer and Geary’s work (2017, cited by Riede), specifically that

a plurality of knowledges around landscape change are productive, but in particular those that come from outside academia.

Here I am reminded of Julie Cruickshank's (2005) work on the history of surging glaciers in the Yukon. Cruickshank explores late eighteenth-century encounters between Tlingit and French naturalists on the Pacific North West during the development of the geological sciences. It is a story of distinct ways of ecological knowing inter-digitating around particular kinds of narratives and material traces. In her work with Yukon elders, she shows how anthropologists can map the intersections between global and local knowledge, a role in which archaeologists are equally adept (Nicholas & Markey 2015). Cruickshank ends her book with a consideration of the human history emerging from melting glaciers and shares her interlocutor's view that we need to 'listen for different stories'. Non-disciplinary voices can transform our narratives, and in some cases 'mov[e] the home address of writing' outside the university and other established spaces (Haber 2012:62).

Riede provides an important critique of some of the emerging stories of the Anthropocene. While the concept is proving to be a critical bridge across disciplinary boundaries, Riede worries about the unintentional relegation of earlier periods to a pre-Anthropocene and pre-modern period. An engagement with a diverse public and a diverse academia also provides important perspectives for archaeologies of the Anthropocene. North American indigenous scholars are critical of the role of the Anthropocene as an interdisciplinary narrative tool (Todd 2015:244). Zoe Todd (2015, 2016) argues that not all humans are equally implicated in creating the climate crisis. Many of these groups are not invited into the intellectual or academic spaces where the futures of the Anthropocene are discussed or responses formulated. Indeed, indigenous thinkers have long engaged in both climate science and climate activism, such as Sheila Watt-Cloutier (2015), the Inuit activist nominated for the Nobel Peace Prize in 2007. Those practising indigenous ways of knowing, such as *Inuit Qaujimaqatuqangit*, obviously play an important role in the 'decolonization of thought' surrounding climate change, yet these voices are often left out of the discussions. We learn much more from the juxtaposition of data-driven environmental approaches and engaging knowledges of those historically emplaced within and currently experiencing such shifts (Laidler 2006).

The issue of teaching and learning the deep past of climate brings up the issue of social transmission, an issue Riede frames in terms of 'actionable cultural information and know-how'. As scholars of learning have pointed out, ideas of the world are not passively transmitted, but rather must be brought about through particular practices, including the kinds of experiential learning associated with TEK. Will the (palaeo-) environmental humanities generate a new kind of pedagogy within universities regarding

climate change? How will this ‘actionable cultural information’ be developed? And will this pedagogy extend beyond the walls of academia to the various publics mentioned above?

Time is the one area of learning that is both rather abstract yet crucial to issues of climate change. Indeed, much of this keynote hinges on this issue; from the argument that the environmental humanities require a deeper sense of time, to the overlapping temporal windows of various disciplines shown in Riede’s figure 1. Riede highlights the possibilities for collaboration and the ‘weight’ of the past on the present. Many of us spend significant time in and outside the classroom discussing the relationship between deep time, archaeological landscapes, and social process. In my undergraduate and graduate seminars, we work through the climate curves from the Quelccaya Ice Cap, the highest-resolution tropical ice core in highland Peru, which is also disappearing (Yarleque et al. 2018). We explore how such climate data can inform our understanding of socio-political and economic processes seen elsewhere in South America. Students learn to think across overlapping scales of time, from human lifetimes to longer cultural and environmental trajectories while grappling with the fragmentary archaeological and climatic data.

One area that the palaeoenvironmental humanities might contribute to is in teaching temporalities to students, to our colleagues across disciplines, and to our various publics, many of whom rarely consider the multiple scales and kinds of time implicated in climate change. In a recent op-ed to the Los Angeles Times, geologist Marcia Bjornerud (2018a) argues that most of the public are ‘time illiterate’. She says we need a ‘new relationship with time’, a cognitive shift towards ‘timefulness’. Elsewhere, Bjornerud (2018b:11) explores ‘chronophobia’ and a variety of forms of ‘time denial’ that geologists and archaeologists might help vanquish. Bjornerud provides some important examples here in terms of the shifts in thinking that might be required to engage climate pasts and presents. Archaeologists working in the environmental humanities might contribute more than geological and evolutionary directional time, but also the complexities of lived time in a range of cultural contexts and their relationship to environmental rhythms (Roddick in press). Archaeology has more to offer than the scalar perspective and uniformitarianism/catastrophism provided by geology or the *longue durée* highlighted by Riede’s (palaeo) humanities perspectives. Archaeology in a variety of contexts shows the wide range of temporal ontologies (for an Andean example, see Swenson & Roddick 2018), many of which provide new threads for our climate narratives. Yet, admittedly, I struggle to bring these discussions outside of my little corner of academia.

Let me end by considering futures. Our lack of action on climate change is, at least in part, a ‘time horizon problem’ (Orlove 2010). For some of

our publics, the medium and distant futures appear too far away for real concern or action. The growing number of dire climate reports show that our collective crisis is rapidly approaching, yet a ‘chronophobia’ (here of futures) persists. This is why the title of this keynote caught my attention. But Riede doesn’t really explain how the palaeoenvironmental humanities might explore ‘deep futures’. What does an archaeology of deep futures look like? Riede suggests that environmental archaeologists in particular must push back against simple applications of archaeological data for nation-building projects, particularly as they are wrapped up with discourses of consumption, colonization and essentialist notions of identity. The larger, difficult question, is how might we mobilize our data for new narratives of our deep environmental futures?

I agree that ‘solutions from the past do not come easily’. The problem lies not in some sort of ‘material incommensurability’ between the past and the future, but rather a lack of effort after modernity (when the past was viewed as ‘irrelevant’) to reposition the past in terms of futures (Sassaman 2012:251). There is thus value in considering climate pasts in terms of ‘interventions against alternative futures’ (Sassaman 2012:251), ones not wedded to current economic dependencies. Matt Reilly (in press) suggests we explicitly engage with the analytical category of futurity in our work, which highlights how the past is used to make claims of the future. Reilly argues that future-making was not and is not limited to the modern west and considering such choices (including those from ancient contexts) in terms of alternative trajectories is of immense value. We might thus consider archaeological evidence, including ‘hard’ environmental data championed by Riede, but also the other kinds of knowledge often left out such conversations, as critical to navigating paths into ‘deep futures’. Will the paleoenvironmental humanities help develop more inclusive and complex conversations about such time horizons? I hope so – and look forward to seeing Riede’s future work developing such narratives in his new position.

## References

- Aguirre, J.C. & Cooper, E.S. 2010. Evo Morales, Climate Change, and the Paradoxes of a Social-Movement Presidency. *Latin American Perspectives*. Vol. 37(4) pp. 238–244.
- Bjornerud, M. 2018a. Most of us are Clueless about Humanity’s Place in the Planet’s Long History. We Need to Learn ‘Timefulness’. *Los Angeles Times*, Dec. 30, <https://www.latimes.com/opinion/op-ed/la-oe-bjornerud-time-literary-20181230-story.html> [Accessed 10 January 2019].
- Bjornerud, M. 2018b. *Timefulness: How Thinking Like a Geologist Can Help Save the World*. Princeton: Princeton University Press.

- Cruikshank, J. 2005. *Do Glaciers Listen? Local Knowledge, Colonial Encounters, and Social Imagination*. Vancouver: UBC Press.
- Erickson, C.L. 1999. Neo-Environmental Determinism and Agrarian ‘Collapse’ in Andean Prehistory. *Antiquity*. Vol. 73 pp. 634–642.
- Haber, A.F. 2012. Un-Disciplining Archaeology. *Archaeologies*. Vol. 8 pp. 55–66.
- Harrison, R. 2016. Archaeologies of Emergent Presents and Futures. *Historical Archaeology*. Vol. 50(3) pp. 165–180.
- Johansen, K.S., Alfthan, B., Baker, E., Hespings, M., Schoolmeester, T. & Verbist, K. 2018. *The Andean Glacier and Water Atlas: The Impact of Glacier Retreat on Water Resources*. Paris: UNESCO Publishing.
- Kolata, A.L., Binford, M.W., Brenner, M., Janusek, J.W. & Orloff, C. 2000. Environmental Thresholds and the Empirical Reality of State Collapse: A Response to Erickson (1999). *Antiquity*. Vol. 74 pp. 424–426.
- Laidler G.J. 2006. Inuit and Scientific Perspectives on the Relationship between Sea Ice and Climate Change: The Ideal Complement? *Climatic Change*. Vol. 78(2–4) pp. 407–444.
- Nicholas, G.P. & Markey, N.M. 2015. Traditional Knowledge, Archaeological Evidence, and Other Ways of Knowing. In: Chapman, R. & Wylie, A. (eds). *Material Culture as Evidence: Best Practices and Exemplary Cases in Archaeology*, pp. 287–307. New York: Routledge.
- Orlove, B. 2010. Time Horizons and Climate Change. *Weather, Climate, and Society*. Vol. 2 pp. 5–7.
- Reilly, M. in press. Futurity, Time, and Archaeology. *Journal of Contemporary Archaeology*. Vol. 6(1).
- Rockman, M. (@marcyrockman). 2018 ‘My reason for leaving is a series of pressures from the NPS that required me to spend ever more time & energy fighting for the right to exist & perform basic tasks. Going forward I want my creativity to go fully to climate & heritage, wherever that heritage may be.’ 15 November 2018, 5:16 AM. Tweet. [Accessed 15 January 2019].
- Roddick, A.P. in press. Archaeologies of the Present and Sedimented Futures: Reflection from Lake Titicaca, Bolivia. *Journal of Contemporary Archaeology*. Vol. 6(1).
- Sassaman, K.E. 2012. Futurologists Look Back. *Archaeologies*. Vol. 8 pp. 250–268.
- Swenson, E. & Roddick A.P. (eds). 2018. *Constructions of Time and History in the Pre-Columbian Andes*. Boulder: University Press of Colorado.
- Todd, Z. 2015. Indigenizing the Anthropocene. In: Davis, H. & Turpin E. (eds). *Art in the Anthropocene*, pp. 241–254. London: Open Humanities Press.
- Todd, Z. 2016. An Indigenous Feminist’s Take on the Ontological Turn: ‘Ontology’ is Just Another Word for Colonialism. *Journal of Historical Sociology*. Vol. 29 pp. 4–22.
- Watt-Cloutier, S. 2015. *The Right to be Cold: One Woman’s Story of Protecting her Culture, the Arctic and the Whole Planet*. Ontario: Allen Lane.
- Wurst, L. in press. Should Archaeology Have a Future? *Journal of Contemporary Archaeology*. Vol. 6(1).
- Wurst, L. & Mrozowski, S.A. 2014. Toward an Archaeology of the Future. *International Journal of Historical Archaeology*. Vol. 18 pp. 210–223.
- Yarleque, C., Vuille, M., Hardy, D.R., Timm, O.E., De la Cruz, J., Ramos, H. & Rabatel, A. 2018. Projections of the Future Disappearance of the Quelccaya Ice Cap in the Central Andes. *Scientific Reports*. Vol. 8 p. 15564.