Interlude 4: Geology and Deep Time[1]

> We are born storytellers, and were likely so even in the mists of human prehistory … And from a combination of narrative and technical wizardry, the distant past can be recreated, brought to life.[2]

In 2007, Alan Weisman published a thought experiment under the title *The World Without Us*, that helped change the public perception of geology by extending the idea of 'fossilization' into a humanless future. It also managed to reach a wider public in the form of a US television series, *Life After People*, produced in 2008 for the *History Channel*. Weisman conjectured that: "If people cease to exist tomorrow and we never send another carbon-bearing molecule skyward, what we've already set in motion must still play itself out … we *Homo sapiens* didn't bother to wait until fossilization to enter geologic time".[3] Weisman's vision of a world without 'us', however, can be seen as part of a more general 'geological turn' in the humanities and social sciences. Popularizations of 'deep time' have further contributed to the creation of a geological cultural imaginary. Geologists and paleobiologists like Jan Zalasiewicz, especially following the success of his *Earth Without Us* (published in 2008), are by now regularly cited sources in the (theoretical) humanities and social sciences. As a result one could say that the humanities and social sciences now clearly engage both with times before and after humanity. In their new inter- and transdisciplinary alliances with earth sciences, life sciences, natural sciences and so on, these new or posthumanities are even transforming themselves into areas that are focusing on knowledge production 'outside' the human, 'without' the human, or indeed, 'more-than-human'. Especially in the context of the 'Anthropocene',[4] the new geological imaginary all too often involves a curious position where humans anticipate their extinction, project themselves into futures 'without' actual humans while also deriving some strange comfort from the fact that humans have left their geological mark on the planet:

> [W]hatever we as a species do from now, we have already left a record that is now indelible, even while the scale of this fossilization event is still in question, and within our power to determine. Humankind has, through its various activities, done enough to preserve its relics into the far future. … We have left our mark. However we are interpreted in some distant future, there will be little doubt that we will be associated with – and responsible for – some of the most extraordinary geology of this, or any other, planet.[5]

One might thus say that geology, after the 'geological turn', has become a thoroughly futuristic or at least future-oriented science. Geology, 'deep history', evolutionary biology and paleoanthropology – sciences traditionally dealing with forms of 'ancestrality' are now, in the time of ambient fears of catastrophic anthropogenic climate change, extinction threats, dramatic loss of biodiversity – all characteristics of the proposed new geological formation of the 'Anthropocene' – beginning to tell

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[1] A longer version of this chapter is appearing in the *Palgrave Handbook of Critical Posthumanism*, ed. Stefan Herbrechter et al. (New York: Springer, 2022), as "Posthumanism and Deep Time".

[2] Jan Zalasiewicz, *The Planet in a Pebble: A Journey into Earth's Deep History*, (Oxford: Oxford University Press, 2010), xii-xiii.

[3] Alan Weisman, *The World Without Us*, (New York: St. Martin's Press, 2007), 39.

[4] The term is attributed to the atmospheric chemist, Paul Crutzen, who won the Nobel Prize for Chemistry in 1995, also was a member of the Anthropocene Working Group, directed by Zalasiewicz. The main objective of the Working Group is to collect scientific evidence for the Anthropocene to be formally recognized by the International Union of Geological Sciences as a geological epoch.

[5] Jan Zalasiewicz, *The Earth After Us: What Legacy Will Humans Leave in the Rocks?* (Oxford: Oxford University Press, 2008), 240-241.

new stories that combine features of the prehistoric novel and science fiction, or "narrative and technical wizardry" to "recreate the distant past"[6]. In fact, they could be understood as being in the process of creating a tradition in T. S. Eliot's sense, as a "usable past",[7] for an anticipated (posthuman) time without humans.

Through an increased awareness of the combined deep time of geological and biological evolution, today's humans are realizing that the very process of hominization (or human evolution) can no longer be seen as 'complete'. This thoroughly anthropocentric or humanist view was always a narcissistic illusion, however. Its shattering through the acknowledgment of deep time may be seen as the ultimate challenge to Enlightenment thinking and the latest and most serious of 'our' narcissistic wounds.[8] In fact, evolution and human development may continue in two ways: supersession or extinction. Both narrative and technical 'wizardry' work towards these two scenarios: the story of human replacement by artificial intelligence (transhumanism) and the story of human (self-inflicted) extinction (posthumanism), with numerous possibilities of crossovers between the two.

Even so and all the while, the humanist legacy is far from entirely losing its appeal. Humanism is still managing to keep anthropocentrism firmly in place, for now. There is, after all, something very comforting about the narrator's position of the paleobiologist in Jan Zalaisiewicz's account, who can see the planet in a pebble, in the same way as William Blake proposed to see the world in a grain of sand. There is the satisfaction of projected hindsight, a reassuring moment of nostalgia in seeing the story of the human as 'complete'. So much so, that we can see ourselves as, and therefore already in a sense 'are', 'fossilized'. We already live in our very own 'geologic time' – like Herr Geiser in Frisch's *Man in the Holocene* – and just as we are about to forget, we see everything again in the most possible clarity. This is how humanism imagines its end before it is eclipsed by some 'post-', some successor species or thought. How reassuring that we can already say that we will have left our mark, that our future posthumousness is assured, after all. And – with enough distance – there will be greatness as well, as Zalasiewicsz assumes. Deep history, deep time and geology have become the stuff of big drama and tragic grandeur in a final attempt of humanism to shore up its legacy.

This is what is behind 'the new cultural geology' which Mark McGurl discovers at work in the climate of 'the contemporary cultural-historical moment' supplanting the 'postmodern':[9]

> [W]hat enables the perception of the postmodern-as-past is a new cultural geology, by which I mean a range of theoretical and other initiatives that position culture in a time-frame large enough to crack open the carapace of the human self-concern, exposing it to the idea, and maybe even the fact, of its external ontological preconditions, its ground.[10]

McGurl is surely right when he claims that this development – critical posthumanism, as I would call it – poses a profound challenge to 'residual humanism', but as seen above, it is by no means beyond re-appropriation by this very humanism. McGurl joins the speculative realists in regaining the 'the

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[6] Zalasiewicz, *The Planet in a Pebble*, pp. xii-xiii.
[7] Thomas Stearns Eliot, "Tradition and the Individual Talent (1919)", *Selected Prose of T. S. Eliot*, ed. Frank Kermode, (London: Faber and Faber, 1987), 37-44. For an investigation into the narrative techniques ('patterns, frames, metaphors') involved in recuperating the 'deep human past' see Andrew Shyrock, Daniel Lord Smail et al., *Deep History: The Architecture of Past and Present*, (Berkeley: University of California Press, 2011).
[8] Cf. "Chapter 2" on Max Frisch's *Man in the Holocene* and Freud's notion of 'narcissistic wounds', above
[9] Mark McGurl, "The New Cultural Geology", *Twentieth-Century Literature* 57.3-4 (2011): 380-390; see also Elizabeth Ellsworth and Jamie Kruse, eds., *Making the Geologic Now: Responses to Material Conditions of Contemporary Life*, (New York: Punctum Books, 2013).
[10] McGurl, p. 380.

great outdoors' by proposing to call the 'not-newness' of the geologic projection of posthumanism "exomodern".[11] The tone of the exomodern jumps between apocalyptism and triumphalism, between utopia and dystopia in typical science fictional fashion while witnessing "the profound contingency and fragility of contemporary social and economic institutions, which are always already falling apart".[12]

We should not forget that cultural pessimism is also a mode of humanism, the reverse side of humanist triumphalism, or humanity in its most brilliant and most abject moments. It is therefore no surprise that McGurl detects in the new cultural geology "a certain pessimism about the ability of human beings to do anything about the crisis their actions have precipitated".[13] It is a perfect conceptual device to abdicate responsibility given the geological vastness that came *before* and that stretches out *after* humanity:

> Having dramatically increased the spatial and temporal scale at which human history will be viewed, that is, human agency itself becomes visible as something nested in forces beyond its control. Thus the terror we see in the not-quite empty sky is the terrifying nature of our ethically unconscious selves. We are the terror, but only insofar as 'we' are discovered to be the 'non-human' in precisely the way stone is – in being careless of the fate of the other.[14]

One can imagine several posthuman genres developing here – comedy, as McGurl himself proposes,[15] but also heroic tragedy in the face of the ultimate adversity, human responsibility and the superhuman 'scale' of the challenges ahead.

Mindful of the ultimate form of humanism and human exceptionalism that the 'geologic turn' might harbour the kind of critical posthumanism we are advocating here must avoid turning deep time into a mechanism of deferral of human responsibility and politics. One move towards such a repoliticization of humanity *as* geologic in the Anthropocene is suggested by Kathryn Yousoff,[16] when she calls for a new investigation into 'geologic life': "a mineralogical dimension of human composition that remains currently undertheorised in social thought". In "examining fossils as material and discursive knots in the narrative arc of human becoming", she argues for a geological turn which takes seriously "not just our biological (or biopolitical) life, but our geological (or geopolitical) life, as crucial to modes of subjectification in the Anthropocene".[17] Once humans begin to see themselves as 'geologic subjects' and put 'geopolitics' alongside biopolitics within a posthumanist conceptual framework that takes postanthropocentrism seriously (but not too literally), then a (new) materialist, geo-vitalist notion of ancestrality might in fact contribute to seeing human agency in the Anthropocene not in the sense of an 'undifferentiated colonizing' and homogenizing 'age of man', but might instead "offer alternative imaginaries for the inhuman forces within humanity".[18]

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[11] *Ibid*., p. 380.
[12] *Ibid*., p. 389.
[13] *Ibid*., p. 388.
[14] *Ibid*.
[15] Cf. McGurl, "The Posthuman Comedy", *Critical Inquiry* 38 (2012): 533-553.
[16] See Kathryn Yusoff, "Geologic Life: prehistory, climate, futures in the Anthropocene", *Environment and Planning D: Society and Space* 31 (2013): 779-795, and "Geologic subjects: nonhuman origins, geomorphic aesthetics and the art of becoming *in*human", *Cultural Geographies* 22.3 (2015): 383-407.
[17] Yusoff, "Geologic life", p. 780.
[18] *Ibid*., p. 781.

My own contribution here to problematize the paleoanthropological 'origin story' of the human (still mostly seen from an essentially human perspective) through the notion of *before humanity* very much shares in Yusoff's hypothesis, namely that:

> If origins are conserved in the forgotten strata of endings, new origin stories possess the possibility to disturb the reality of the end so that other modes of apprehending the buried geological subjectivity of the Anthropocene might be unearthed that question its unifying claims of global geologic agency.[19]

It is therefore vital for a geologically informed posthumanist (geo)politics to extend agency to the nonhuman, on the one hand, but also to pluralise the human from within, so to speak, to take into account a plurality of 'geontologies'.[20] This is particularly true of accounts of 'prehistoric man' that are based on an 'undifferentiated originary position', and that are thus, through their usually unquestioned universalism, depoliticised. *Before Humanity* instead insists on both the plurality of 'origins' and 'humanities' and extends the political struggle of (human and inhuman) difference into both past and future, i.e. it ancestralises *and* pluralises both backwards and forwards, so to speak, in asking what humanities are there *before* and *after* 'humanity'.[21]

[19] *Ibid*., pp. 781-782

[20] Cf. Elisabeth Povinelli, *Geontologies: A Requiem to Late Liberalism*, (Durham: Duke University Press, 2016), who shows "how our allegiance to the concept of biopower is hiding and revealing another problematic – a formation for want of a better term I am calling *geontological* power, or *geontopower*" (p. 4).

[21] Cf. Yusoff, "Geologic life", p. 786: "the human that we have become has no 'we' at the level of genus, or in terms of racial, sexual or geographic identity"; see also p. 789: "The fossil, then, is an abandoned being that suddenly in the midst of the present reconfigures the possibilities of times, of past and future, and like a line of flight thrown from some prehistoric world or imagined future it offers a hitherto unimaginable direction to thought and becoming – ourselves as Neanderthals, others as Denisovan, human strata, geologic subjects, extinctions, and survivals".