Planetary Futures, Planetary History

Zoltán Boldizsár SIMON

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A New Historical Condition

As human societies face previously unthinkable futures, a new historical condition is taking shape. It emerges out of the technological advancements of the human world that intervene into, mingle with, and kick off natural processes in manifold ways.

Synthetic biology, geoengineering, nanotechnologies, and artificial intelligence technologies attempt to steer what has previously been conceived of as the domain of natural order and a mystery we barely fathom: life. Today, we engineer biological life, create non-biological, mechanical, and digital lifeforms, and blur thereby the former distinction between biological life and non-biological

entities. And we do so even with respect to ourselves, from medical enhancements (Gordijn and Chadwick 2008) to transhumanist imaginaries of technologically enhanced human bodies and minds escaping their biological human confines (More and Vita-More 2013; see also Tamm in this volume). What is more, in both governmental and private enterprises, we even plan to escape our Earth-bound condition. While NASA's Journey to Mars project (2015: 33) talks about taking 'steps toward establishing a sustainable human presence beyond Earth, not just to visit, but to stay', SpaceX CEO Elon Musk (2017) envisions humans becoming a multi-planetary species through the colonization of Mars.

At the same time, technological advancements as accompanied by a certain "techno-managerialism" (Crist 2019) fueling such imaginaries are also held responsible for more dire future scenarios of human-induced climate change, biodiversity loss, and a sixth mass extinction of species (Leakey and Lewin 1996; Kolbert 2014). Tinkering with and entangling nature through technology threatens with altering planetary conditions to the extent that may compromise the continuation of the flourishing of human societies at best or of human life on the planet at worst (Rockström et al. 2009).

Either way, utopian or dystopian, *human futures are inextricably bound today with larger planetary futures*. They are constitutive of one another in mutual interactions instead of the planet being simply the frame or background of human activities. The recognition that human futures are planetary futures today in a systemic way is based on two fundamental and inseparable insights: the realization that the human being has become a primary drive behind ongoing transformations in the Earth system; and the very idea that the Earth is an integrated system. Earth system science (ESS), a knowledge formation coming to its formalization in the 1980s (Steffen et al. 2020), developed both insights in their most popular shapes as they are known today. It may be possible to look for earlier inspirations and/or alternatives such as the Gaia framework (Lenton, Dutreuil and Latour 2020), but ESS has arguably been the most instrumental successful in bringing together physical and social processes in one larger picture of the Earth as a complex interacting and integrated system.

For one thing, the notion of the Anthropocene (Crutzen and Stoermer 2000) started its career as an ESS effort to name the systemic collision of the human and the natural worlds by referring to anthropogenic changes in the Earth system as testified by stratigraphic evidence. Yet it quickly became clear that the social components of the Anthropocene may not be as profoundly addressed by ESS as by scholars of the human world. No wonder that Eva Lövbrand and her co-authors (2015) asked the question 'Who speaks for the future of Earth?' and argued for a more prominent role for social scientific knowledge in coping with planetary futures. A distribution of work may indeed yield important results, while there is an equally compelling extent to which the systemic entanglement of physical and social processes is actually no one's expertise in the modern disciplinary distribution of knowledge, which demands a new knowledge regime yet to be developed (Simon 2020).

What does all this mean for historical understanding? The answer I attempt to sketch in this essay is that as the futures ahead gain a planetary character, our historical understanding cannot escape to be planetary too. For historical understanding is not merely a question of what to make out of the past. It is a question of what to make out of the past, the present, and the future as seen together. Or, to use the category of François Hartog (2015), it is a question of what to make out of our reigning 'regime of historicity', the current configuration of the relation of past, present, and future. Drawing on Hartog, Dipesh Chakrabarty (2019: 1) suggests that 'planetary or Anthropocenic regime of historicity' may be the term that best captures our current condition. In transferring Hartog's notion from the framework of referring to inner relations of temporal dimensions (past, present, future) into the framework of referring to timescales (the history of the planet, of life on the planet, of the globe), Chakrabarty suggests that ESS has already begun to write a new kind of history in a planetary regime of historicity.

Drawing on both Hartog and Chakrabarty, my thesis is this essay is that the planetary character of our regime of historicity is indeed compelling, but the fact that a planetary history emerges as a correlate of our planetary futures demands two qualifications that simultaneously enlarge and confine planetarity. First, as linked with our current historical condition, we should not conceive of the planetary as

being merely Anthropocene-related. The best way to think about a planetary history is to conceive of it as response to facing manifold planetary futures, including not explicitly Anthropocene-related ones too (at least not in the ESS meaning of the term), such as the aforementioned colonization of other planets. While this arguably expands what we mean by planetary, the second qualification rather narrows the category by stating that linking the planetary with the new historical condition does *not* mean that the planetary *is* the new historical condition itself. It is rather one of the central conceptual tenets of a renewed historical understanding through which we understand the world and ourselves historically in times of unprecedented change (Simon 2019).

The first of the above aspects is a matter of planetary futures, while the second one is a matter of planetary history that planetary futures demand. The pages that follow will explore both in more details.

Planetary Futures

What makes the previous modern regime of historicity distinct is 'the predominance of the category of the future' (Hartog 2013: 34). But if the case is so, if the future already pervaded the modern idea of history, then the question arises: what's so new about our recent obsession with planetary futures?

The answer boils down to three interconnected constituents of modern Western future-orientation. First, it aims at betterment over the course of a historical process; second, betterment is conceived of as sociopolitical development toward the best attainable political constitution; and third, the humanity implied by such scenarios is a social and cultural category. From Kant and Hegel to Comte, Marx and beyond (even up to the implied future of recent discourses on universal human rights and the emancipatory politics of the Left), there is an immense disagreement about the specifics of how betterment plays out. Not to mention the even more profound disagreement about what future sociopolitical constitution amounts to betterment in the first place, and what makes humanity human. Yet, all disagreements aside, the futures of the modern regime of historicity are specifically human futures.

Thinking with planetary futures takes issue with all three constituents of human futures. Let's briefly review how exactly, one by one. To begin with betterment over a historical process, in planetary futures the anticipated change is typically catastrophic and the catastrophe is expected to be launched by an event instead a historical process leading to it. For instance, we do not deliberately work towards reaching a tipping point in climate beyond which abrupt changes of the Earthy system are expected to follow, and we do not consider this possibility in terms of progress and development. I explored this aspect elsewhere in more details by describing recent ecological and technological futures 'inherently dystopian' (Simon 2019: 79–103). This is not to say that there no longer are futures around that some may consider utopian. It is only to say that, in the context of planetary futures that entangle human and physical systems and their futures, even the utopian is considered to be dystopian at its core due to the unfathomability of whatever comes after the abrupt change, and due to the prospect of losing the capacity to act on and steer planetary changes that originally have been kicked off by human activity.

Second, being futures of entangled physical and social systems, planetary futures do not have a vision of the best sociopolitical constitution as their *telos*. With respect to the *telos*, inherently dystopian scenarios either do not postulate an endpoint at which planetary futures could be directed, or this endpoint is the catastrophe and not a purposeful one as in the case of visions of perfect societies. The overall relation of planetary futures to the best attainable sociopolitical constitution is a bit more complex though and far less definite. While there is a massive extent to which sociopolitical, cultural, and ethical concerns remain integral and pivotal to planetary futures given the human involvement, such concerns do not constitute the ultimate question of the future as they did in the case of modern human futures.

Planetary futures demand us to rethink politics instead of projecting our existing political stances into the future. Alongside efforts to retailor old conceptions such as cosmopolitanism to the new situation in order to uphold a positive vision as a critique of dystopianism (Delanty and Mota 2017), social theory, political science and international relations are in no shortage of suggestions to address a planetary predicament. The catastrophic character of planetary futures

and the urgency of the planetary predicament typically result in efforts aiming at a new 'planet politics' to 'assure the planet's survival' (Burke et al. 2016: 522), or in calls for Earth system governance tasked with 'societal steering of human activities with regard to the long-term stability of geobiophysical systems' (Biermann 2014: 59). Such suggestions seem to be in line with scientists' call for planetary stewardship 'to become active stewards of our own life support system' (Steffen et al. 2011: 749). Together, they attest to the logic of management as *maintenance* in facing planetary futures instead of appealing to the modern logic of ideological action of *betterment*. The merits and shortcomings of this shift are of course open to debate; what is important here is only to note the shift itself.

Third, in the ESS view of interacting and physical and social systems, the human features as a species in a web of planetary life. This is the point at which the planetary predicament looms the largest and at which planetary futures of different ways of thinking come together. Conceiving of the human in a web of planetary life brings together the ESS view with various lines of anti-anthropocentric humanities scholarship such as environmental humanities (Heise, Christensen and Niemann 2017), with approaches to cross-species kinship and critical posthumanism (Haraway 2008; Braidotti 2016), and with technology-oriented planetary futures such as the transhumanist mentioned earlier. Despite their oftentimes conflicting views on other matters, these approaches share the imperative of going beyond an exclusively social and cultural understanding of the human.

None of this means that the specifically human futures of the modern regime of historicity and their three constituents are totally irrelevant today. Rather, it means that we must explore whether the questions and concerns of the modern regime can be readdressed within a new historical condition that demands new categories of thought, including that of the planetary. Some of the old concerns may find their way to a planetary frame, some may be integrated in an altered shape, while others may vanish. Exploring the fate of human futures as planetary futures is not a task that could be performed from one day to the other. It will take tremendous time and effort as part of the larger task of enunciating the planetary regime of historicity that negotiates the old and the new.

Planetary History

Carrying out this larger task of situating new technological and Earth system concerns with old concerns of the modern regime of historicity is precisely one that planetary futures demand from a planetary history.

Do we already have such a history? Well, not in any established manner; but yes, we have it on its making. For one thing, remember Chakrabarty (2019) claiming that Earth system scientists are writing history within a new planetary regime of historicity. The fact that the endeavor is less visible (or even close to invisible) in professionalized historical studies tells a lot about the relevance of disciplinary knowledges in the emerging historical condition. If our regime of historicity is indeed changing, then it is an open question which knowledge formations will be part of it and in what ways. Surely, humanities and the social scientific concerns need to find adequate expression in a planetary history, equal to scientific concerns. But it is unlikely to happen along disciplinary lines. At least this is what recent developments of the scientific field indicate, with ESS bringing together many approaches and former disciplines.

History as disciplinary knowledge might not play an exclusive or a leading role even in planetary history. To avoid misunderstandings, planetary history is most certainly a new kind of historical knowledge; it is only that the current disciplinary codes of professionalized history do not enable the development of such knowledge. Disciplinary history is challenged by planetary futures on three levels: that of epistemology, methodology, and worldview. All challenges derive from the aforementioned entanglement of the natural and human worlds, of physical and social systems. Like any other modern discipline, history may address certain elements of the entanglement, but it is not designed address the entanglement itself.

First, whereas history as disciplinary epistemology is attuned to investigating the human world, the entanglement demands knowledge about a more-than-human world Chakrabarty 2009; Domanska 2017; Tamm and Simon 2020). Second, even if a more-than-human history could be an epistemologically feasible enterprise, it would still lack the methodology to deal with evidence of physical systems. As Libby Robin (2013: 329) notes, in studying the deep past ‘documents

give way to different kinds of archives' that geological methods enable to consult better than 'the standard tools of the historian'. But the natural sciences have developed methods to investigate the more recent human past too, methods that are largely unfamiliar to disciplinary history. John McNeill (2016) recently argued that in order to be able to address the past in light of our recent concerns, history needs a methodological revolution to get rid of a fetishism of textual evidence and embrace the various data that the natural sciences bring to the picture from microbiology to genetics (on the latter see De Groot in this volume).

Third, even if both epistemological and methodological challenges could successfully be addressed, planetary history necessitates a shift in the implied worldview to conceive of the human within a web of planetary life. Whether this would mean transporting historical studies into the larger family of non-anthopocentric posthumanities (Domanska 2010), or whether anthropocentrism is inescapable, is yet another an open question. Either way, the shift is not possible without developing new concepts and categories through which we make sense of the world and ourselves.

'Planet', 'planetary', and 'planetarity' are central among the new categories that have already begun to resonate across the humanities and social scientific landscape, with varying degrees of attentiveness to scientific work. Theories of planetarity in literary studies (Spivak 2003; Elias and Moraru 2015), for instance, pay more attention to giving a new twist to previous ways of in-house theorizing than to the systemic collision of human and natural worlds. They voice ecological concerns and talk about relational interconnectedness, but without mentioning the work of ESS. Scientific work, on the other hand, explicitly informs the efforts of social theory (Clark and Szerszynski fortchoming), political science (Burke et al. 2016), and history (Chakrabarty 2019) when introducing the planetary as a category of thought. It is, I think, a more fruitful approach. The recognition that ESS and knowledge about emerging technologies are indispensable for adequately addressing the overall predicament – together with the acknowledgement that scientific work has brought the predicament to the common agenda in the first place – is where knowledge production of a planetary character can begin. And this,

needless to say, applies to planetary history too, regardless of whether it comes from historians, sociologists, Earth system scientists, or from collaborative efforts.

Conclusion

To bring together all diverging lines, let me offer the following description (meaning less than a definition): planetary history is a way to situate our knowledges of the past, present, and future of the planet as a system and our knowledges of life on the planet. Life on the planet obviously includes human life, in which the human is understood both as a species in a web of planetary life, and as a sociopolitical and cultural being fraught with inequalities and differentiations. How to bring all this – humans, life, species, Earth system – into a meaningful relation to each other? Whereas an innate humanities theory of planetarity such as that of Spivak (2003: 72) proposes 'the planet to overwrite the globe', Chakrabarty (2019) thinks of the planet as the humanities equivalent of the scientific notion of the Earth system. Unlike the category of the global which entails a history that features the human (in a socio-cultural understanding) at its center, the planetary entails a history of life. The respective key terms of global and planetary thinking attest to this fundamental difference, with the human-centered idea of sustainability informing global thought and the life-centered idea of habitability underlying planetary thought (Chakrabarty 2019: 17–23). Instead of overwriting the global with the planetary, this rather means that 'we are all living, whether we acknowledge it or not, at the cusp of the global and the planetary' (Chakrabarty 2019: 23).

Inasmuch as the planetary intends to capture the collision of physical and social processes from a humanities point of view, the task of planetary history is to relate the global and its differentiated human world to the extra-human dimensions that the category of the planetary entails on a level where the human acts as a species. This, however, may not be the end of the story. We can do better than looking at the new from old humanities viewpoints; we can develop a wholly new viewpoint. Planetary history can potentially be an experimental pool to nurture new knowledges that spring out of the encounter of old and new (in which,

perhaps, even the planetary turns out to be a bit narrow as Tamm wonders in the next chapter).

On the long run, we cannot content ourselves with categories that separately apply to human and natural sciences. Developing a humanities holism along the already existing scientific holism of ESS is hardly a desirable ultimate aim. It condemns us to a sort of methodological atomism that intends to build a picture of the whole through investigating its social and physical parts as seen in light of their own respective categories. If we really want to upgrade our understanding of the past, present, and future of a system of entangled social and physical processes, we need to nurture knowledges equipped with a vocabulary of categories applying to the whole and not only to the respective social or physical elements. This, I think, would set us on a course of learning to inhabit a planetary regime of historicity through planetary history as self-knowledge, which, in turn, would be the most instrumental in coping with the very planetary futures we are facing.

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