1 They say "our house is on fire" – on the climate emergency and (new) Earth politics

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> DID YOU KNOW YOU HAVE A CALLING?
> An epic calling.
> A heroic calling.
> It's probably grander than anything you had let yourself imagine, outside of your dreams. You are *supposed* to save the world. That's why you are here, alive in this time of great consequence.
>
> – Margaret Klein Salamon (2020, p.xiii)

We live in troubled planetary climatic times. There is, unfortunately, no doubt about that. Abrupt climate change is now playing out on the earthly scene at a pace viscerally comprehensible to us humans and our fleeting existence. At the time of writing, May 2020 was the warmest month on record with the highest level of carbon dioxide in the atmosphere ever directly measured (417.16 ppm). The year is on track for becoming also the warmest in a series of record-breaking years since the start of detailed meteorological measurements. This heating of the planet is but one of numerous climate warning signs. We could recount shifting jet stream patterns with resulting changes in precipitation and heat distribution, wildfires raging over Arctic permafrost and the melting of the Greenland ice sheet at a rate that was previously not supposed to be seen for another few decades or so. Another worry is the ongoing deforestation in the Amazon that could move the rainforest towards a potential tipping point where it may irreversibly turn into a savannah, and according to climatologist Michael E. Mann it "is conceivable that much of Australia simply becomes too hot and dry for human habitation" (Mann, 2020a). The dire state of the planetary situation includes concerns over food production and biodiversity. Maria-Helena Semedo of the Food and Agriculture Organization (FAO) told a forum marking World Soil Day in 2014 that the world could run out of topsoil in about 60 years (see Arsenault, 2014). Insect populations are declining, and we are losing biodiversity at an unprecedented rate (Sánchez-Bayo and Wyckhuys, 2019). Even the prospect of an emerging sixth mass extinction is a scientific matter

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of fact that we have as a matter of concern on our planetary table (Ceballos, Ehrlich and Dirzo, 2017; Kolbert, 2014).

Adopting the words of the climate activist Greta Thunberg, we can safely say that "our house is on fire" which is a way of recognizing the empirical scope and gravity of the ongoing planetary climate mutation. If we are to avoid catastrophic climate change and its devastating consequences for humanity, we need to immediately take climate action that is planetary in scope. In order to stay below a 2°C increase in global average temperatures compared to pre-industrial levels, as stipulated by the Paris Accord, we have very limited time at our disposal. Although many figures are floating around of the fabled "window of opportunity" that is supposedly still open to us, they tend to gravitate around a decade or so. What is required to happen during this short period of time is then nothing but a historically unprecedented revolutionary overhaul of the very fabric of our societies, and at planetary scale. As Greta Thunberg puts it: "I want you to act as if our house is on fire. Because it is" (Thunberg, 2019, p.24).

To say that "our house is on fire" is also to recognize that the Earth and humans are critically trans-mutating through a common planetary "super wicked" problem, whereby time is running out with no planetary authority to address the problem, coherent will to change and a future discounted in policy suggestions (Levin, et al. 2012). Speaking as geographers, we note that in modern human geography the Earth has primarily been conceptualized as Earth's surface on which humans as social subjects have made their spatial imprints. We will argue that this modern socio-spatial theorizing, amplified by a political cultural agenda, is insufficient and obsolete when we now are facing the wicked Earth of the Anthropocene. On that planetary level we now need to conceptualize humans not only as geographical subjects but also as a geo-force affecting the functioning of the Earth System. However, both humans and the Earth also turn out to be problematic at that scale. Accordingly, we want to scrutinize conceptualizations and theorizations of the Earth and humans that are more adequate and relevant to our present earthly planetary state of climate emergency and its urgent call for climate action. Here we focus on humans as earthly beings, dwelling in a house on fire in the midst of an emerging Apocalypse in search for its earthbound politics. How can we come down to Earth and land with a growing population and demands for resources in the midst of the climate emergency? Can the Apocalypse heed the calling to save the world?

We begin this chapter with how the climate emergency equates to a house on fire. In the next section, we therefore present some current empirically grounded insights as to what is burning and the emergency of the climate situation, including calls to urgent action. Then there is the question about the nature of the house that is on fire, which here implies that the Earth can be conceptualized in many different ways, for example as "humanity's common planetary house", the "Earth's surface" or the "Earth System". These are big Earth concepts that are useful at the planetary scale, but they

can also be paralyzing for Earth politics and concrete climate action. We therefore break these down in order to illustrate how we can give figure to the Earth as "Critical Zone" (CZ), and with some occasional references to "the Terrestrial" as earthly demarcation human habitation. With this focus we propose ways in which we can compose our planetary house in actionable terms, carving out a politics of earthly habitation that does not *a priori* distinguish between nature and society, nor separate the old social question from the earthly local and planetary climate and ecological conditions. The emerging Earth politics in the fourth section of the chapter thus highlights the "planetary vital signs" we want to see incorporated into an earthly climate politics of the CZ. We end the chapter with some thoughts on paradoxical life in the earthly house of the looming Apocalypse – our dwelling in troubled earthly planetary end times.

Climate emergency: when our house is on fire

In the year 2019 "climate emergency" made it to the headlines and became established in various fields within and outside academia. A network of 7,000 universities declared a climate emergency (O'Malley, 2019), and so did the European parliament while it also urged all EU countries to commit to net zero greenhouse gas emissions by 2050 (Rankin, 2019). The climate activist Greta Thunberg became Time's person of the year, and Extinction Rebellion (XR) established itself as a major climate activist group. XR's aim is to rebel against extinction, not just of humans and polar bears but of all earthly things and creatures, such as glaciers, insects and forests. This year (2020) we have witnessed more than 11,000 world scientists declaring a "climate emergency" (Ripple et al., 2020).

While people rebel and academics, individuals and supra-national assemblies declare a climate emergency, the time for action is now. Climate emergency is a pressing imperative to act while there is still a chance to turn the tide of climate and ecological crises sweeping the planet. Most importantly, climate action has to be conducted on such a grand scale that small individual contributions, however well intended, are doomed to be insufficient. In Greta Thunberg's words: "Everything needs to change. And it has to start today" (Thunberg, 2019, p.12). According to the UN (2019) report *United in Science*, "policies to lower emissions must *triple* to meet the 2 degrees Celsius limit, and *fivefold* to align with the 1.5 Celsius limit" (p.16 *our emphasis*). The time for climate mobilization is now, not because of all the talk about climate emergency, but for another reason: *we are living in it*. Our house is on fire, and every single day of (in)action counts.

Our planetary house heats up from the inside, and the principal climate mitigation strategy is to rapidly reduce the burning of fossil fuels, typically with the goal of halving our emissions by 2030 against 1990 levels. When the European Parliament announced its recognition of the climate emergency, these reduction targets were adjusted for the EU from 40% to 55%. Yet, as

Anderson, Broderick and Stoddard (2020) suggest, just the decarbonization targets of Britain and Sweden would produce emissions between two and three times the carbon budget required to meet the goals stipulated in the Paris Accord (i.e. limit global warming to 2.0°C and preferably 1.5°C).

> Even within more 'climate progressive' nations [like Sweden and Britain], the Paris Agreement necessitates an immediate increase in their proposed mitigation rates by a factor of two to over 10% p.a., with full decarbonization achieved across all sectors by 2035–40. Delivering such rapid and deep mitigation implies profound changes to many facets of contemporary industrial society. But failing to take appropriate action will increasingly lock-in devastating climate impacts, imposed initially on poor and climate vulnerable societies, but ultimately across all of the international community and natural ecosystems.
>
> (Andersson, Broderick and Stoddart, 2020, p.12)

In the context of emergency, then, full decarbonization needs to be achieved by 2035–2040, and not even the targets set by climate progressive nations are sufficient. Of note is that targets investigated refer to plans that often tend to be optimistic, and where there is a long way to implementation. When it comes to declaring climate emergency, the situation may not be that different. A declaration in words, however well intended, will not reduce the amount of carbon dioxide in the atmosphere; neither will a signature on a Paris Accord stop the heating of the planet. In fact, under business-as-usual scenario we seem to be on track for at least 3°C of global warming, and that is likely to be a conservative estimate by most accounts. The consequences at 2°C are expected to be:

> that more than 150 million additional people would die from the effects of pollution, storms that used to arrive once every century would hit every single year, and that lands that are today home to 1.5 billion people would become literally uninhabitable, at least by the standards of human history.
>
> (Wallace-Wells, 2020, see also: Xu et al., 2020)

In a widely acknowledged paper from 2018, "Trajectories of the Earth System in the Anthropocene", the authors suggest that 2°C may in fact be a potential threshold that could activate dangerous tipping points that could take the Earth System towards even higher temperatures. "[E]ven if the Paris Accord target of a 1.5C to 2.0C rise in temperature is met, we cannot exclude the risk that a cascade of feedbacks could push the Earth System irreversibly onto a 'Hothouse Earth pathway'" (Steffen et al. 2018, p.8254). In that perspective, the Paris Accord goal of keeping global warming below 2°C looks more and more like a planetary mission impossible. If that were to be true, then the Earth politics of the Paris Accord actually appears to

be an issued death sentence for the human species rather than a document for securing humanity's common planetary future. In anticipation of the forthcoming IPCC report of the global climate due out 2021, one of the lead authors Dr Joëlle Gergis cannot but wonder:

> …whether the Earth system has now breached a tipping point, an irreversible shift in the stability of the planetary system. There may now be so much heat trapped in the system that we may have already triggered a domino effect that could unleash a cascade of abrupt changes that will continue to play out in the years and decades to come. Rapid climate change has the potential to reconfigure life on the planet as we know it.
>
> (Gergis, 2020)

Declaring climate emergency implies an unprecedented planetary climate action mobilization and transformation, often articulated as avoiding a global heating beyond 1.5–2°C. However, according to Mann, "1.5C might be impossible now (without artificial sequestration technology). We go for the earliest exit ramp we can" (Mann, 2020b). Climate emergency also suggests something completely different from climate mitigation and adaption steeped in the gradualist modern discourse of sustainable development. Emergency is literally a matter of life and death, looking for the earliest exit ramp and saving as much as possible while the house is on fire. It is perfectly understandable that so many of us often shy away from the existential planetary threats that we, as humanity or as species, are facing. Human, all too human. As the climate and ecological emergency unfolds an internal battle is raging, as if we are torn between reasoning and emotioning. As Salamon, who pioneered the climate emergency declaration campaign, puts it:

> We sense we're in climate emergency and mass extinction event, but we have a deep-seated psychological instinct to defend against that knowledge. The pain is shouting at us: "Everything is dying!" Somewhere inside, we feel the horrors of civilizational collapse and the sixth mass extinction of our species, in our bodies. Our minds attempt to shield us from this pain – we avoid, distract, deny, and numb ourselves. But these defences work only temporarily: When we fail to process our emotions and mourn our losses, the pain takes on tremendous power. It follows us around like a shadow, and we become increasingly desperate to avoid what we know.
>
> (Salamon, 2020, p.2)

We have no intention here of going into Freud, but living under the murky spell of climate and ecological emergency evokes all kinds of existential, emotional and cognitive dissonances and reactions. On that psychological canvas floats the temporality of emergency in the present. A climate revolution has to take place at planetary scale within ten years or so, the precise

numbers are here not that important. As Mann (2020a) puts it: "We are the blindfolded man who is told he is nearing the edge of a cliff. Is he three steps away? Four? Ten? Regardless of the distance, his only safe course of action is to stop lurching forward". Regardless of whether "we" is a man, woman, he, she, humanity or a human species, to stop lurching forward requires, according to the climate emergency advocates, a massive collective climate action and unprecedented radical transformations of the very fabric of our societies. If we fail, those among us who have already been punished by history will be among the first to be punished yet again.

Declaring climate emergency, that is, to speak and act on the premise that our house is on fire, raises several questions about what it is that is on fire. The emergency refers to the state of climate relative the planet, and that will inevitably take us to the Earth. However, the Earth can be conceptualized in many different ways, for example as "earth surface" and "Earth System". Many more possible articulations of the Earth exists. such as David Abram's framing of all our encounters as "telluric", whereby the Earth is expressed through enacting itself by "expressive magic in its own manner… [as] a property of animate earth itself" (Abram, 2010, p.171). The language of poetry and the voices of novelists and storytellers are mediations of modes of existence that can be from the past, present or the future. These are abundantly available to jolt our sensibilities in new directions and open us to different possibilities to give figure to the Earth at large, including our own earthly agencies. In every culture and every place there are possibly ideas around of a different relationship with our surroundings. Déborah Danowski and Eduardo de Castro (2016) explain for instance with fervour how indigenous Amerindian creation myths allow for earthly practices without endless progress and have prevailed in the face of the devastation of their populations and cultures. All these ways of conceptualizing the Earth and our relations with "it" have consequences for our climate thinking and actions. "Saving the planet" is not the same as conserving soil and insects on a small tract of land. What is the Earth and what is "we"? How does alternative earthly sensibilities and practices translate to loss of biodiversity and sea-level rise? Can our common murky and malleable planetary waters be charted in ways that are at the same time also local and Earthbound?

The Earth: what house is on fire?

We humans have made such fundamental changes to our planet that one can make the argument that it also needs a new proper name. Among the possible ones we find Bill McKibben's "Eaarth" (McKibben, 2010). Perhaps for understandable reasons it did not catch on, and now the Earth is increasingly understood in the context of the Anthropocene (i.e. the proposed new geological epoch distinguished by the geo-force of humans, *the Anthropos*). The Anthropocene comes with a particular new kind of Earth, one that has moved from background to foreground. This Earth simultaneously alters our understanding of Society and what it means to be human.

We might here recall Galileo who, as part of the Copernican revolution, claimed that "the Earth moves". Today, four centuries later, in the Anthropocene, the Earth indeed moves again, but in a completely different way. In addition to its celestial motion, a planet orbiting around the sun, we now understand that the actions of humans "move" the Earth, and in ways that are faster and more widespread than we could ever imagine. The Earth is responding to our actions in real time. When Galileo and the astronomers made the Earth move around the sun, "the whole fabric of society [also] felt under attack" (Latour, 2020a, p.1). Even though the motion of the planet could not be perceived in everyday life, it nevertheless had real impact on the religious and social order. Now the moving Earth of the Anthropocene calls for a (new) Earth politics.

When geologists and geoscientists of the Anthropocene now transform the Earth into a moving *Earth System*, the whole organization of society, and what it is made of, is also being subverted. By definition the Anthropocene states that the trajectory of this geological epoch cannot be separated from the activities of humans (the Anthropos). With this understanding we can detect that humans also move the Earth System: melting glaciers, jet streams that meander, wildfires in the Arctic, city-sized swarms of locusts that are wreaking havoc and what else of earthly-planetary "movements" there may be. In fact, the Earth System is actually mutating so fast that it now overlaps with our human time-scale, and thereby effectively braiding our respective agencies. Indeed, we are confronted with an Earth System that is no longer changing only in the slow pace of its own geological time. It now moves at a pace even faster than human history, and we too have to act fast if we want the Earth System to remain in a "safe operating space for humanity" (Rockström et al., 2009). Climate emergency means in the Anthropocene that "[u]rgent action is required to avoid further collapse of the Earth System" (Morris, 2019, p.55).

However, the Earth of the Anthropocene, and particularly in relation to the climate and ecological emergency, has thus far been rather poorly conceptualized in the social sciences and the humanities. In modern thinking the Earth has most often been regarded as a passive backdrop for social life, a stage for the big actors of Nature/the environment and Society/culture.

> Throughout recent history, an underlying stable condition of the Earth System has been taken as a given. This is the premise upon which our legal and political structures have been created over the past several centuries. /…/ there has been an implicit assumption that current conditions form an objective and unchanging reality that has surrounded us since time immemorial.
>
> (Zalasiewicz et al., 2019, p.36)

This modern understanding corresponds to the Earth in the geological epoch Holocene (the last 12,000 years or so), where it was a relatively

stable dormant agency which was not supposed to wake up and change the planetary course before the next ice age. In modern thought the Holocene Earth has been re-presented as the Earth's surface, which has also served as a primary reference plane for politics. This can be illustrated by modern geo-politics where states were considered to be territorial units. Conflicts and wars were basically about their demand and control over space on the Earth's surface, and did not involve the kind of Earth that we have come to know and be dependent on in the Anthropocene and in the climate emergency. For example, in the so-called "world wars" the "Earth was the board on which conflicts were waged, not a party of those conflicts" (Latour, 2020a, p.5). We can here note that in modern thinking another abstract Earth has also been over-layering the Earth's surface, namely "the Globe".

> …there has been confusion between the Globe and the Earth. Such a Globe is still the undisputed, authoritative, universal, external frame inside which all geopolitical entities – be they empires, nation-states, lobbies, networks, international organisations, corporations, diasporas – are situated in a recognisable place, a province side by side with all the other provinces. In other words, a natural Globe still offers the 'ground map' which allows any localisation to occur.
>
> (Latour, 2016, p.307)

As we move from the Earth of the Holocene to the Earth of the Anthropocene, a conflict between the Globe and the Planetary also arises. There have been many wars in human history, but none has engaged the planetary *as such* (Chakrabarty, 2009; Latour, 2020a).

> The First World War had generated a novel idea of the global horizon, but entirely failed to let the "Planetary" emerge as such: yes it was a world war, but the planet was still taken as a single checkerboard for human players.
>
> (Latour and Chakrabarty, 2020, p.7)

Now that the stable conditions of Holocene Earth has disappeared, and with the Earth System in the driving seat in the Anthropocene, we are in the hands of an unruly defiant Earth (Hamilton, 2017). During the Holocene humans were, in principle, only a *geographical* force. Their activities transformed the Earth's surface, environments, places, landscapes, nature, but not the Earth System itself, and the Earth System most certainly did not speak back in any way we as humans in our fleeting existence could grasp or comprehend (Zalasiewicz et al., 2019). The message of the Anthropocene is that humans are also a collective *geological force* that affects the functioning of the Earth System. The melting of the glaciers is partly caused by human action, and their melting will in turn inevitably have consequences for our own possibilities for earthly habitation. Indeed, geography's rationale as

"earth-writing" seems now to have gone full circle, as the intruding agency of a mutating planetary Earth is now also literally writing us (Gren, 2017). At present we are nervously waiting for an all too soon blue ocean event up in the Arctic, and the dire planetary consequences thereof.

Yet, humans remain also in the planetary driver's seat, albeit with a fundamental difference. We can no longer operate on the modern assumption that we can clearly separate our own agency and historical temporality from the geological temporality and agency of the Earth System. Humans and the Earth System are instead two intertwined parts of a common "geo-story", and they co-author each other's destinies in real time (Chakrabarty, 2009). Gone also are the modern days when freedom was about human relationships in social isolation, because "as we enter the Anthropocene freedom must also, and primarily, be understood as it bears on our relationship with the Earth" (Hamilton, 2017, p.150). As the motto of Sloterdijk's anthropology reads, "*Tell me what you are immersed in, and I will tell you what you are* [emphasis in original]" (Sloterdijk, 2016, p.17).

As for us humans, it may be *heimlich* to be part of an Anthropos and feel a familiarity at the species level. Yet, everybody knows that the Anthropos does not correspond to a political subject or agency that by a magic earthly wand can turn down the heating of the planet. And controlling the so-called "Earth System" is as eerie as subverting the so-called "capitalist system". We might say that the Anthropocene is a calling to come back down to Earth, but we also need to recognize that the big co-ordinates of Earth System and the Anthropos will only get us so far. To which Earth are we supposed to get back? On which Earth should we land (Latour, 2018a)? Who are the "we"? That we live on the Earth may seem obvious and self-evident. Yet, one could in fact also claim that we do not live *on* the Earth, but that we instead live *in* something else.

The CZ was defined in 2001, but has only recently been acknowledged as a distinct co-evolving entity driven by physical, chemical and biological processes that sustain life. The CZ includes atmosphere, water, biology, regolith, land surface, and is recognized as an entity composed of co-evolving systems that create the structured dynamic skin of the Earth (Brantley et al., 2017, pp.852, 856). A few kilometres down and a few up relative to the Earth's surface at median sea level is where all terrestrial life exists. It is in this thin varnish, the skin of the Earth, where life produces and maintains itself. At present we do not have a good conceptual vocabulary for describing the Earth of the CZ, not even in geography. One of few geographers who have systematically tried to develop a conceptual apparatus for mapping the conditions of the CZ, although he did not call it that, was the Swedish geographer Torsten Hägerstrand (well known for his time-geography). In his final book, unfortunately only in Swedish, he develops a geography centred on "tillvaroväven" ("the web of becoming"), or "the fabric of geographical co-existence" (Hägerstrand, 2009, see also 1976). The web of geographical becomings is composed by all earthly creatures and their co-evolving

geographies, thereby highlighting the time-space signature of what Moore (2015) and Glacken (1967) would call the "web of life".

Our aim here is not to provide a detailed account of the CZ, and there are of course other ways of downscaling the Earth, most notably in this context are "the biosphere" and "the geobiosphere". Whatever the Earth, our climatic vulnerabilities need to be recognized, politicized and negotiated (Hamilton, 2015). The point is that CZ offers one alternative to big concepts like Earth System, the Anthropocene and Humanity. As necessary as it may be to try to "save the planet", to keep the "Earth System" in a "safe operating space for humanity" or to focus on the "planetary scale", we are still operating on a level for Earth politics that is too remote from earthly human practice. It is arguably in something like the CZ (or "web of becoming", or "the fabric of geographical co-existence") that we as a geographically differentiated terrestrial being will have to land on, as it denotes the common planetary house of life we inhabit. The climate of this house (the skin of the Earth in which we reside) is simultaneously co-constituted by our geographically specific territories and territorialities.

It follows that the CZ becomes an earthly entity that can and needs to be politically and spatially re-composed, especially so in times of planetary climate and ecological emergency. Indeed, if ever there was a time for earth writing and speaking an earthly language, this is the one. The "earthly imperative" in the Anthropocene and in the climate emergency is to pave the runway of where to land. This requires that fragile possibilities are underpinned by an earthly, or terrestrial, politics that can help us navigate our present state of planetary unsustainability. It needs to revolve around a political mobilization of the CZ in the here and now, of "the Terrestrial", or in other ways be able to align the hackneyed social question with the earthly.

(New) Earth politics: composing our planetary house

In the perspective of the Anthropocene, any political composing of our planetary common house has to take the braided collective geo-force of humans and the functioning of the Earth System into consideration. As noted, this is easier said than done. The *Anthropos* of the Anthropocene, we humans, remains an abstract being, and there is no corresponding political assembly available where this being can settle its political climate disputes and compose its planetary commons. Likewise, the Earth System is also a too big of a concept, and it also comes with a particular natural science narrative of the Earth, even though that can give us some tools for identifying important planetary "vital signs" like for example "temperature, precipitation, river flow, glacier behavior, groundwater reserves, sea level, seismic activity" (Bjornerud, 2018, p.63).

Although "[t]he dramatic narratives of the geologic past are perfectly suited to the human appetite for storytelling" (Bjornerud, 2018, p.174), we need to hone in and break down units for political analysis and action, yet

with an eye focused on the overall planetary climate and ecological emergency. In order to do climate Earth politics, we need some kind of earthly grounding that defines where we reside and where the web of life is sustained. For that reason, it is to something like the CZ we must go, as it denotes the thin skin of the Earth where all life is composed. The CZ, possibly further demarcated as the Terrestrial (Latour 2018a), becomes an earthly entity for climate politics as well as for climate action. This is at least something different from de-politicizing gesture of negotiating the Anthropocene from the stand-point of some kind of naturalized emergency, which;

> …resides precisely in letting the naming of a geo-social epoch and a contingent "truth" of nature decide our politics, thereby disavowing that the "our" or "the human" does not exist.
>
> (Swyngedouw, 2019, p.256)

Furthermore, any attempt to do politics in and of the CZ, or what Latour is referring to as "terrestrial politics" (Latour, 2018b, 2020b), must grapple with how to combine the old "social question" with an understanding of humans as earthly beings composing life together with all other beings in the CZ. It is of little help, especially in the light of planetary climate and ecological emergency, if our politics lead to the improvement of social justice while, for instance, the current rate of soil depletion continues. In the same vein, getting a political climate grip on the soil and the land, where we are born and through which we are allowed to continue to exist, will make little progress if we do not simultaneously address social and economic issues of control and ownership.

One could argue that modern political thought has been biased towards the social, and for understandable reasons. When Karl Marx developed his theory of historical materialism by the end of the nineteenth century, he could see with his own eyes that the production of material wealth was tied to awful social and economic injustices. In volume one of *Capital* he stated that labour was the "father" of material wealth, but he also noted in passing that it had "earth as its mother" (Marx, 1887, p.31). Nevertheless, the Earth remained in the background for Marx, as an Earth surface offering a geographical distribution of material resources. Marx came to focus on the politics of the social world that we live *in*, and on the social class struggle that comes with it. "If the accumulation of capital is the proletarianization of labour, it is also the production of knowledges aimed at controlling, mapping, and quantifying the worlds of commodification and appropriation" (Moore, 2015, p.20, citing Marx's *Capital* on labour).

As Jason Moore however highlights: "At the core of this law is the ongoing, radically expansive, and the relentlessly innovative quest to turn the work/energy of the biosphere into capital (value-in-motion)" (p.14). In other words, the "…work/energy of the web of life is incorporated into the relations of power and re/production" (Moore, 2015, p.15). In the Anthropocene, we are

facing another class struggle that is not only social since it now also involves the geological.

> Geology is real enough. But it becomes *geo-history* through definite relations of power and production in which geological dispositions are immanent. Geology cannot "directly determine" the organization of production, precisely because production relations are co-produced.
>
> (Moore, 2015, p.44, emphasis original)

The relationship between the social and the geological in the Anthropocene gives rise to what one may call a "geo-class struggle". We are dealing with "geo-social formations", which are saturated with both anthropological and geographical differences (Clark and Yusoff, 2017). We can think of the fact that as some of us opt not to fly and even more cannot afford it, Bill Gates may be up in the air for weeks during a year. This is not only a socio-economic class issue, him being superrich, but also a question about our respective ecological footprints and their earthly consequences. This becomes a "geo-class" struggle which is less about the unequal access to wealth *in* society and more about the Earth Bill Gates and we all live *off*. This is also reflective of an earthly rift between the particular territory a state or country occupies on the Earth's surface, and the territorialities it and its citizens depend on for their subsistence. As Latour points out, there "is a world *in which one lives*, the one that has justice, rights and obligations, the vote, citizenhood; and there is a world *one lives off*, which has become a very way off, down below" (Latour, 2019, p.9). In the "new climatic regime", which Latour uses in order to give legal and institutional dimensions to the Anthropocene, we are all torn between the world we live in and the world we live off.

In terms of both climate and ecological emergency it becomes evident that the earthly world that we live *off*, or *from*, no longer provides us with a stable immutable ground for accumulating our material wealth, nor for engendering our ecological habitats. One could say that this "*earthly* earth-world" we live *from* is now irrupting in the midst of the "*social* earth-world" we live *in*. The overarching geo-political challenge in the Anthropocene then becomes how these two earth-worlds, and these two class struggles, can be reconciled *and* how they could mobilize a climate politics and climate action that can help us to find our way, not so much *on* planet Earth, but *inside* the CZ, and therein the enacted demarcation of the Earth as the planetary common ecological zone that is critically relevant for human survival. Underneath the Earth System are insects and soil, underneath the capitalists are workers, and "underneath the workers are living things!" (Latour, 2020b, p.8). This points to the important observation that the ecological must be added to the class struggle between social and geological.

A terrestrial politics *in*, *of*, *for*, the CZ, faces daunting difficulties. One of them is how to combine social justice with climate justice, to which we

would add ecological justice. In the words of Pope Francis, we need to politically detect "*both the cry of the earth and the cry of the poor*" (LS, p.49, cited in Latour, 2018b, p.5). The CZ, as well as the planetary climate and ecological emergency, does not sit very well inside the political space of the nation-state. For example, "[w]hen you say it's yours, do you include the red sand blowing from Sahara or the acid rain from Chinese factories?" (Latour, 2020, p.9). In terms of scale, the CZ, for human habitation, is always terrestrially local, but every pocket of local order is at the same time co-dependent on territorialities that take it all the way to our planetary common CZ. We can try to take care and protect our own trees, but what about the forests that belong to other territories and other people? However, geographically distant, their territorial politics are also part of the composition of other terrestrial territories. If Bolsonaro decides to instigate actions that turn the Amazon rainforest into savanna, and Trump pulls out of the Paris Accord, are they not actually declaring a geo-political climate war on *us here*? Are they not effectively saying that "We don't want to live on *your* planet!"? Transformed into action, they undermine the prospects for us to live on *our* planet. At the time of proofreading we now know that US has re-joined the Paris Agreement, perhaps that could be read as a gesture of peace in "the new climate war" (Mann 2021)?

So it is that our common planetary home is fraught with earthly political tensions, and some of its occupants have even locked themselves up in their own rooms imagining that a common habitable Earth has nothing to do with them and think they can fireproof their own walls as the rest burns to the ground. As Bjornerud states, "…our current society is a kleptocracy stealing from the future" (2018, p.165). Latour spares no punches in telling us that the loosely defined elites, carrying the emblem of Donald Trump, have already;

> given up the idea of actually pursuing the modernization of the planet with everyone, because they knew, before everyone else, that such modernization was impossible – precisely for want of a planet vast enough for their dreams of growth for all.
>
> (Latour, 2018a, pp.22–23)

We all live in certain rooms in the planetary house, subjected to its nooks and crannies of which the nation-state is a terrible signifier. With the dawning realization of planetary boundaries being crossed, the prospect of a dire planetary future is now thrown at us all, playing a ghastly role in our attempts to figure out who we are as political actants and how we can politically proceed with dignity in terms of an ecologically expanded understanding of "geo-social justice" (Clark and Yusoff, 2017). Fire proofing the planetary house is now a task for all of us, but it will mean different things to the different rooms we happen to inhabit, and their crannies to our common home. Yet fireproofing is not the same as conducting a rescue

operation when a house is on fire. Doing Earth politics under emergency conditions means to as quick as possible save as much as possible. As the COVID-19 made abundantly clear, whichever way the Earth responds to our activities, in this case a zoonotic disease, the ramifications play out in our societies and through the extent of our reactions. In this extraordinary case, what everyone before thought to be impossible, the economy and its growth engine actually had an emergency off-button.

> A hiatus of just two months is all it took to achieve what numerous studies by sociologists of markets and anthropologists of finance would never have achieved: a widely-shared realization that the economy holds in place only as long as the institution that performs it – and not a day longer.
>
> (Latour, 2020b, p.5)

Although still in the throes of the COVID-19 pandemic, and the case is still open as to how it will play out, what to us is clear is that, in spite of the climate and ecological emergency, the political pressure now is to push the on-button and go back to "normal" as quick as possible. The politics of what is currently understood as "the economy", which means that its ecological roots have been amputated, thus casts its dark purgatory shadow over the Earth as the place for human habitation.

Inside the house of the Apocalypse: dwelling in troubled earthly end times

So how to go ahead, while dwelling inside a house on fire? How to find one's way when action on "fire", as climate and ecological emergency, is still being stalled by prolonged investigations inside various imaginary departments of fire and emergency management, all with addresses quite unknown? Moreover, what to do in times when there is not even a common understanding of "the house" in question? In Latour's words, "[t]he great tragedy of the present situation is that there is no agreed upon definition of which planet we are supposed to inhabit in common" (Latour, 2020, p.13). Perhaps this also suggests that if one wants to understand human thought-and-action, then there is much to learn from Greek tragedy (Olsson, 2007). Everything looks fine in the beginning, all the actors (read: "the Moderns") are filled up with good intentions (read: "the promises of Modernity"). However, as they make progress along their way to a future Utopia (read: "an imaginary place without real earthly grounding"), and thereby manage to emancipate themselves from their earthly attachments, they eventually end up in a terrible terrifying planetary bondage (read: "they managed to free themselves from Nature but are now waking up enslaved by the Earth System"). All in all, the accumulation of unintended consequences at planetary scale. By taking action in accordance with their own maps, with the co-ordinates of

Society and Nature writ large, the Moderns were supposed to gradually move towards a better "Future". Now, in the Anthropocene, in the climate and ecological emergency, they instead find themselves suspended in mid-air, realizing that they will have to come back down to Earth. Meanwhile, the speed of a dire planetary climate and ecological future moving towards them correlates all too well with the temporality of their own climate (in) actions.

Given the scientific evidence of climate and ecological change at planetary scale, it is impossible to arrive at any other conclusion than that "our house is on fire". Consequently, there is no doubt that a historically unprecedented transformational climate and societal change is urgently required in order to avoid at least some of the devastating consequences for humanity at planetary scale. We live in climate and ecological emergency (not to mention all other possible emergencies), which means that humanity, as we have come to know it, is facing a literal existential threat, to our civilization and even to our species (i.e. sixth mass extinction event). No wonder that references to "the Apocalypse" now seem to abound. Apocalypse has a somewhat complex etymology and is apparently used in different ways, but most often it seems to denote something more or less purely negative and disastrous. In that sense, it also comes with a connotation of "end times", but what about "the end" of what, and what about "the time"? One clue is suggested by etymology since the Greek word "apokalyptein" means "disclosure" and "revelation". In the Book of Revelation in the New Testament (also known as "Apocalypse"), the word "revelation" denotes God's will and a divine providence in relation to the end of the world and final judgement. The most fundamental appeal of religious apocalypticism seems to be the conviction it holds forth that time is related to eternity. The history of the human species/humanity has discernible structure and meaning in relation to its End, and this End is the product not of chance but of a divine plan. It is that plan (the will of God), and how humans have responded to it in their earthly practices, that will be the frame for judging them in the End time of the Apocalypse. However, one does not have to restrict "Apocalypse" to religious interpretations. In the context of the Anthropocene, and the climate and ecological emergency, the references shift from a divine providence, a heaven above and its temporal horizon designed by a God above, to existence on an Earth down below. The final judgement, for earthly human purposes, is then not made by God, but by the Earth (however conceived). The end time formula, which is central to religious apocalypticism, can then be transformed into a secular variant. In relation to climate and ecological emergency, our earthly present planetary situation, we believe that two positions can be identified for heuristic purposes. In the *first*, the Apocalypse comes to denote that we do live in earthly end times, and that there is basically nothing we humans can do about it. The planetary climate system, in this case "the Earth" instead of "God", is too powerful, and has set us on a dire and inevitably disastrous trajectory. In the *second* position, however,

it becomes instead important to accept that we actually live in the Apocalypse, precisely in earthly End times (see Malm, 2020; Williams, 2011). Now is the time to define ourselves, now is the time for taking actions that are worthy of an earthly judgement. This "earthly Apocalypse" also changes the notion of the future from divine to earthly, and reverses its direction to an earthly future that is also coming towards us. This plays out particularly against the Modern understanding where climate action (living and acting in the present) always can be postponed into an undefined utopian future that comes with the promises of delivering technological fixes (Hamilton, 2015). As long as we cling to the Modern hope, in the sense that some solutions in the future will save us (compare with "Gods will" and divine power over human destiny), we will not accept, nor take responsibility, for living in the time of the earthly Apocalypse, Perhaps this is somewhat in line with what Greta Thunberg is advocating:

> Adults keep saying: 'We owe it to the young people to give them hope'. But I don't want your hope. I don't want you to be hopeful. I want you to panic. I want you to feel the fear that I feel every day. And then I want you to act. I want you to act as you would in a crisis. I want you to act as if our house is one fire. Because it is.
>
> (Thunberg, 2019, p.24)

In our reading, it is our current planetary (dis)juncture that turns the original theological myth of the Apocalypse into an earthbound planetary climate and ecological crises. It is then not the final judgement of God, but the present earthly climate and ecological planetary order that reshapes the lives of human beings and where particularly the Earth-world as we know it comes to an End as modern technology continues its earthly destruction. However, the original meaning of Apocalypse also includes "disclosure" and "revelation". Disclosing the veil of the Earth-world can imply the demise of an older order and the creation of a new, whether this new is utopian or dystopian is another question. A new Earth politics will have to emerge to us from the earthly entanglements we are embedded in, which is something else than the magmatic rumblings of the Earth to the sun it encircles once a year, or by an Earth politics centred on Society and Nature. Faced with the earthly Apocalypse it is our primary task to listen and comprehend these expressions and allow them a role in making for our territories and territorialities. In the earthly Apocalypse there is little time for listening to the clamour of idealized progress and hope for grand fixes to the Earth System by an abstracted humanity, or inversely the doom and gloom of a religious End time. All our political declarations, accords or lofty promises will not reduce the amount of carbon dioxide in the atmosphere or stop the heating of the planet. After all, especially in the earthly Apocalypse, *you* are indeed *supposed* to save the world now (tomorrow may already be too late).

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