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Jensen, Ole B.

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Re-designing World-making and Mobilities in the Techno-Anthropocene

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Ole B. Jensen, Aalborg University, Denmark

1. Introduction

The challenges facing global ecologies and lifeforms (human and non-human) are cascading at present. There are various intersecting forms of crisis, from biodiversity over climate change to massive refugee patterns, inequities, and pandemics. Even though there is only ‘one world’ in the sense of one globe with ‘no outside’, living species have probably never found themselves in more segregated ecologies within the Earth’s ‘critical zone’ before. From new ‘geo-social classes’ over stranded migrant populations to voluntary isolation by the super-rich, planetary co-existence seem in peril. And yet, it is all intertwined, albeit in complex and multi-scalar ways. In this paper the mobilities of matter, humans, goods, and information will be understood on the background of the techno-Anthropocene. This is then seen as the designed, mediatized, technologically framed artificial ontologies of planetary existence. The contemporary global condition is thus defined by the ‘made’, designed, artificial, and technological to an extent that may qualify the diagnosis of the Anthropocene with the prefix ‘techno’. Acts of ‘world making’ and mobilities design renders new lines of demarcation between those who move and those who do not, as well as between those who move on a voluntary basis versus those living lives of forced mobility. The paper addresses the ways in which we might re-think and re-design such troubled materialities of world-making and mobilities seeing ‘mobility justice’ and planetary co-existence as key goals. This means to engage in a critical-creative reimagining of scales, territories, mobilities, and inviting to techno-utopian and democratized visions of different futures.

2. Enter the Techno-Anthropocene

In the BBC Future feature Fisher and Hirschfield answer the question “Why we are in the age of artificial Islands’ (2022). They make the observation that we are ‘*building more islands than ever before*’ and show some stunning footage to illustrate the point (fig. 1). They see Island-building as yet another example of humanity’s attempt to colonize the world lakes and oceans with new lands. I see this example of terraforming and land-making as parable for thinking through the relationship between dwelling, territoriality and the Anthropocene. And further I want to argue why this also is a practice we should describe with the prefix ‘techno’. Vannini and colleagues argues that when looking at how technology and human practice is related a relational approach is appropriate. Not one where technology is predetermined as good or bad, but one where it is recognized at its potential

to transform the relationship with humans and places (Vannini et al 2012:4). Technologies are sociotechnical assemblages in which '*multiple components play different roles dependent on circumstances, context purpose, needs, affordances, material possibilities, and multiple other contingencies and variables*' (ibid). In line with post-phenomenology (Ihde 1990, 2022; Verbeek 2005) the multi-stable and mediating role of technologies (and here understood in its widest sense to also include spatial and architectural dimensions, see Botin & Hyams 2021) suggests that the world we 'make' are also conditioning of the life we live.

Fig 1: Pearl Island, Qatar (source: Fisher & Hirschfeld 2022)

In the BBC feature social geographer Alastair Bonnett is quoted to stating that '*New Islands are being built in number and on a scale never seen before*'. And moreover, the new generation of Islands are bolder and grander than before. We might stop and pause on 'floating cities' and living on the water like in the Hollywood movie 'Waterworld' starring Kevin Costner from 1995 to fuel our imaginary. There is a whole extra discussion on 'amphibious architecture' and other cases of 'floating' and thus mobile 'Islands'. Obviously sedentary and fixed islands unravel other dynamics than mobile and nomadic islands (see Wakenfield, 2019 for an interesting discussion of amphibious architecture). However, also the practices of 'offshoring' describe by John Urry as spatial tactics of capital to avoid nation state regulation may spring to mind (Urry 2016). All these dimensions of 'Islanding' are interesting, however, here I want to stay with the dimension connected to making, forming, designing and shaping on the one hand side. And on the other territoriality, mobility and inhabitation. If we look aside from the bold propositions of Elon Musk, Bjarke Ingels and other capitalist-new-frontier-entrepreneurs that advocates a planetary exodus, what we are looking at are tactics for earthly inhabitation that requires re-designing world-making and reconfiguring the relationship between spaces and territories. Here mobility becomes central as those flows of humans, goods, vehicles, or data either 'flows into' sites and network nodes, or bypass these. The practice of building new islands is a tactics of denying 'Terra' its hosting privilege for the human species. Rather, we may indeed 'make new land' and hence take yet another anthropocentric leap into human exceptionalism (aside from beavers not many other species 'makes new land'). The new islands are 'critical points of contact' (Jensen & Morelli 2011) in a new ephemeral and unstable global network geography. However, the practice of 'terraforming' or making land is not a unique human practice as Haraway reminds us (Haraway 2016). Authors such as Anna Tsing (2015),

Emanuele Coccia (2016), and Jane Bennett (2010) all reminds us, that non-human lifeforms are vivid agencies of terraforming and world-making. However, judging by the matters of concern facing life on Earth we need to address the transformative and destructive force that relates to humans in general and to humans and technologies in particular. So even though there is an in-built anthropocentric problem in speaking with the language of the ‘Anthropocene’ (see Haraway 2016) we need to address the question of the techno-Anthropocene. This is then seen as the designed, mediatized, technologically framed artificial ontologies of planetary existence. The contemporary global condition is thus defined by the ‘made’, designed, artificial, and technological to an extent that may qualify the diagnosis of the Anthropocene with the prefix ‘techno’ and that what we really are exploring are acts of ‘world making’. One voice in this field of contested terminologies is Vincent Blok who speaks of the ‘post-Anthropocene’ (2022). According to his analysis, *‘humanity is not the primary agent involved in world-production, but concrete technologies’* (2022:1). However, beyond the terminological Babble this analysis argues that the Anthropocene calls for the production of a new post-Anthropocene as well as it questions humanity’s ‘world-making capacity’ (p. 3). From here one may engage in a complex discussion of who (or should we rather say “what”) makes worlds? Technology, Nature, Humans? In the context of this paper, I would say all these distributed and overlapping agencies (and yes, I am not counting God as an option here). Tønder has it right when stating that *‘... it would be wrong to think that human agency has become the only game in town ... between the microscopic organisms, ocean currents, atmospheric disturbances and technological innovations, power is now working in all kinds of ways, and at all scales’* (Tønder 2020: 312). And nevertheless we should pay attention to the fact that *‘we [humans] design our world, while our world acts back on us and designs us’* (Anne-Marie Wills, in Costanza-Chock 2020:13). Such acts of ‘worldmaking’ are not taking place ex nihilo. Rather, as pragmatist philosopher Nelson Goodman argues:

The many stuffs – matter, energy, waves, phenomena – that world are made of are made along with the worlds. But made from what? Not from nothing, after all, but from other worlds. Worldmaking as we know it always starts from worlds already on hand; the making is a remaking ... (Goodman 1968, in Talisse & Aikin 2011:177)

Across a variation of thinkers there is a critique of the homogenizing and totalizing discourses related to notions of ‘Modernity’ and ‘Western thought’ standing on an ontological assumption of the cartesian division of subject and objects, the separation of nature and culture, and a notion of human exceptionalism. The discussion is not only too vast to unfold here, but it also so multifaceted that it requires a detailed exegesis of works and texts. However, from Bennett’s critique of the idea that matter is inert and fixed (2010, 2015) over Haraway’s insistence on multiple ‘kinships’ (2016), to Latour’s concern for how we inhabit Earth with a recognition of the need to care beyond the anthropocentric (2018, 2021) there seems to be an articulation of matters of concern that lies in the troubled relationship the human species have with what is its (for now at least) only home: Terra. Authors such as Escobar argues for indigenous knowledge and a world of ‘pluriverses’ (2017), some articulates a ‘non-human turn’ decentering the anthropocentric (Grusin 2015), and yet others announce ‘posthumanist design’ according to which human-centered thinking might not be the answer to our problems, but rather their root causes (Wakkary 2021:1).

The mobilities and immobilities of matter, materials, humans, and non-humans are vital to engage with in the techno-Anthropocene and this beyond any fixed notion of scale.

3. Mobilities and Re-scaling

“*The world is on the move*” we so often hear. Having researched urban mobilities for more than two decades now, I would subscribe to this. However, not only are people, vehicles, goods data, and information on the move. So is air, water, tectonic plates, birds, fish etc. The very ecological processes sustaining life are temporal and dynamic, and hence mobile. Yet the touch points and interfaces between the artificial, human-made infrastructural landscapes and networks of mobilities and the complex ecosystems are poorly understood. From a materialist pragmatic standpoint, the key is not so much ‘what system’ we are looking at, but rather how the planet is host to multiple mobile ecologies and circuits and what this means for our chances for staying alive on the planet. To quote mobilities scholar Mimi Sheller we could say that:

Underlying all human mobilities and dwelling are the microscopic mobilities of microbes and the cosmic planetary mobilities of the Earth system itself. These micro- and macro-scales are connected, as novel coronavirus reminds us as it cuts a swathe of death across the globe, hitchhiking through its human hosts ... We can conceive of Anthropocene mobilities, therefore, as shaping the historical conditions for colonial processes of capitalist expansion, Indigenous expulsion, resource extraction, and labor exploitation, all of which continue to put many people at risk today ... without mobility justice we will not achieve planetary sustainability (Sheller 2021:45, 51-52)

Lack of space prevents me from going deep into these matters, but I want to highlight some key elements. First, we need to look beyond scale as a fixed division line of phenomena and ontologies. Rather we should understand that from the microbic to the planetary, things are connects in complicated ways. The micro and macro scales Sheller spoke of dissolves in the light of more elaborate analysis. As argued elsewhere:

Scale is an important concept. It works in geography, architecture, urbanism, and a number of other areas. It also works in the ‘real world’ of humans where it organizes societies and fuel politics. Scale gathers people in collectives, as well as it works a political force for pitting them against one another. Hence scale is far from neutral ... we want to critically challenge an understanding of scale as something fixed, structural, obdurate, and ordered. Rather we encourage a thinking of scale as something related to fluidity, mobility, networks, and continuums. Rethinking scale along these lines is important for the academic understanding of the world, as well as it is key to many of the global and planetary challenges of the immediate future (Jensen 2021:1)

The need for ‘rethinking scale’ leads us to another way to articulate the challenges. Here I am thinking of the work done on the so-called ‘Critical Zone’. In the words of Szewszynski the critical zone is:

... the near surface layer of the Earth where most living things reside ... this region of the Earth’s extended body is a complex, dense world, filled and folded, crowded with entities and processes, movements and transformation, activity and signs, whose powers and conditions of existence are hard or impossible to disentangle (Szewszynski 2020:344)

Gaillardet argues, that we do not live on Earth but on a '*thin film, barely visible on a planetary view*' (2020:122). The critical zone is one of the most important, complex and fragile 'interfaces of the planet ... functioning at different scales' (p. 123):

The concept of a Critical Zone does not set up an opposition between humans and nature or between living and non-living states. It refers to a system, which we still have difficulties naming and representing that is anchored locally, and orchestrated by biochemical cycles in which living organisms including humans are agents, among others (Gaillardet 2020:127)

The notion of critical zone is an attempt to articulate and comprehend what might be termed 'territorial metabolism' (p. 129), which require a rethinking of scale:

The earth science's focus on a 'zone' critical to life on this planet problematizes sedentary scalar politics and points to new and networked relationships. The interdisciplinary and multi-scalar (or cross-scalar) endeavor basically aims at offering a more viable perspective on the co-existence of humans and non-humans on the planet. Critical zone thinking explores the ecologies of materials and matter that enables life and sustains various lifeforms on planet Earth (Jensen 2021:7)

The critical zones of planetary existence are beyond fixed and sedentary scales. They are volumes and 'life spaces' of human and non-human lifeforms whose interdependence only slowly are emerging on our political radar. A planetary scale for a planetary set of challenges seems obvious, but instead of distanced judgements and abstract solutions, we are 'in it'. The art of figuring out 'how to land' (i.e. survive as species in a manner respectful to the planet and its living species) requires not only fluid, volumetric, multi-scalar thinking. It requires politics close to the matter of concern:

Instead of trying to indicate a distance from the situations that require judgement, it points to the effort of gaining a *new proximity* with the situations we have to live in. The logic of *critical proximity* is what this book [Critical Zone] is about (Latour & Weibel 2020:9, italics in original)

The increasing concern with the material conditions of planetary existence requires a politics of critical proximity as much as it requires a set of global solutions. Elsewhere, Latour has made a point of stressing that the urgent matters of concern increasingly relates to territory and soil. The politics of the ground, the soil, and the Earth are the urgent matters of concern (Latour 2018). Here, nested hierarchies of fixed scales for political institutions or territorial identity will lead us nowhere. Based on the experiences with Covid-19 and societal lock-downs, we may rather say as Bruno Latour that:

Everything we encounter, the mountains, the minerals, the air we breathe, the river we bathe in, the powdery humus in which we plant our lettuce, the viruses we seek to tame, the forest where we go looking for mushrooms, everything, even the blue sky, is the result, the product. Yes we must really say it, the artificial result of agencies with which city-dwellers, every bit as much as country-dwellers, have something of a family resemblance ... On Earth, nothing is exactly 'natural' ... everything is raised, put together, imagined, maintained, invented, intricately linked by agencies which, in

a way, know what they want, or in any case aim at a goal that is exclusively their own, each agency for itself (Latour 2021:20-21)

Precisely this question of the ‘natural’ pivots around not just human’s world-making capacities, but also more intricate questions of ‘making’, the ‘made’, and hence ‘design’.

4. Design, envelopes, and ‘the made’

The focus on design and the ‘made’ (and thus artificial) might seem overtly technology oriented. However, there is a deep anthropology going on here since the human species has been involved with ‘world-making’ since our very beginning. Latour sees the coming together of humans and non-humans, spaces and technologies that we consider the result of architectural design practices to be intrinsically connected to the creation of ‘envelopes’:

To define humans is to define the envelopes, the life support systems, the *Umwelt* that make it possible for them to breathe ... we are enveloped, entangled, surrounded; we are never outside without having recreated another more artificial, more fragile, more engineered envelope. We move from envelopes to envelopes, from folds to folds, never from one private sphere to the Great Outside (Latour 2008:8, Italics in original)

The notion of ‘envelope’ makes a striking parallel to the thoughts of Peter Sloterdijk, whom Latour names to be the ‘philosopher of design’ par excellence. Sloterdijk’s focus on Globes, Bubbles and Foams (2011, 2014, 2016) renders a vocabulary of similar awareness to the artificiality and constructed nature of human beings as Latour and his pragmatic statement that ‘*artificiality is our destiny*’ (Latour 2008:11):

Now that nature itself has become artificial, it’s even impossible for nature to avoid being designed. The building of society and the unbuilt nature, the distinction has disappeared: the purview of the architect and the designer, people used to be very much aware of this, even, for example, looking at the countryside surrounding their house. But this notion of a sizable wilderness has disappeared (Latour 2011:69)

This attention to the ‘made’, constructed, or the artificial is both an obvious touchpoint to the field of architecture and design, as well as it connects to Latour’s wider concerns about the climate challenges and the dismissal of the nature-culture divide. The fact that we inhabit spaces, sites, and systems ‘of our own making’ is clearly an indication of the relevance and importance of architecture and design to Latour’s thoughts. The practice of ‘making worlds’ by building ‘climate screens’ is not just a recent fixation. Rather, it is an anthropological constant that makes Latour speak of the ‘envelope’ and how humans always have been related to things as well as the world through a complex process of ‘enveloping’ (Latour 2008:8).

As we become attuned to the importance of non-human agency and in particular in relation to things and spaces, we start seeing the erosion of another hallmark of what Latour termed the ‘Modern Constitution’:

The typical modernist divide between materiality on the one hand and design on the other is slowly being dissolved away. The more objects are turned into things – that is, the more matters of fact are turned into matters of concern – the more they are rendered into objects of design through and through (Latour 2008:2)

The transformation of ‘matters of fact’ into ‘matters of concern’ suggests that what we thought was the inert structures and the numb artefacts, actually takes on political and normative dimensions -

architecture becomes political (Yaneva 2017). Latour seems tireless in his insistence on the in-between categories that fit such a new political architectural situation. We need to move beyond objects and subjects, as well as to tune in on the relations and attachments of these entities:

... human members and social context have been put into the background: what gets highlighted now are all the mediators whose proliferation generates, among many other entities, what could be called quasi-objects and quasi-subjects ... things, quasi-objects, and attachments are the real centre of the social world, not the agent, person, member, or participant – nor is it society or its avatars (Latour 2005:237-8)

The scale of the envelope and its isolation from its immediate context may indeed lead us to think primarily of buildings. But more is at stake here. The ‘envelope’ we inhabit is closer to the critical zone described before. Within this sphere there are nested envelopes, enclaves, and islands that as designed systems and artefacts have the function of terra forming and making land. As already said such material and tangible practices of world-making has stratifying dimensions in relations to who can access and who can stay on these islands of protection and privilege. Even if the exodus tactics of the elites (as we saw with rich people fleeing dense inner cities to their rural countryside heavens during Covid-19) may not be a long-time valuable tactics, it will in the short run accentuate power geometries and mobilities differentials related to power and mobility justice.

5. Power and Mobility Justice

There might philosophical grounds for problematizing a ‘one world world’ understanding (De Le Cadena & Blaser 2018; Escobar 2017). Looking at Terra or the Earth from the point of view of for example the ‘Critical Zone’ (Latour & Weibel 2020) as well as recognizing the troubles human practices that is threatening to leave all earthly life in peril (Latour 2018, 2021) it is however hard not to look at the problem as one of taking care of this ‘*one place where we happen to live*’. There is only one Earth or globe, and the fragility of the ecosystems within the critical zone seems to justify such a one-world-world view. However, the ways in which we inhabit it as multiple different species and lifeforms are differentiated indeed. Perhaps we could say that geographically there is one globe/sphere/earth and it looks like we are in risk of it becoming uninhabitable (Adey 2022). However, within this sphere, multiverse inhabitations across all kinds of species and cultures takes place. Moreover, are the multiple ways in which we make sense of our presences (from microbes to plants over birds to humans). If we add to these the uneven and highly differentiated opportunities and resources with which we may live, it is perhaps less surprising that one could get the thought that ‘we live in different worlds’. So, what at face value might sound as a logic contradiction may indeed be a sensible description of the situation. All earthly lifeforms and species have only one globe, but we inhabit it on so striated and differentiated conditions, that we perceive living in different worlds. World-making thus might not be about ‘making one place’ but rather as they ways in which our agencies and practices shapes our habitats and territories in multiple, at times overlapping at other times contradicting ways.

The privilege (and resource) to move at will is pitted over and against people stock in place of forced to move. Already Bauman pointed at this stratifying dimension to mobilities when speaking of ‘tourists’ who moves by free will and ‘vagabonds’ who are forced to move (1998:77). Critical mobilities scholar Mimi Sheller takes this controversy further when she inserts it into the prism of ‘mobility justice’ (Sheller 2018). Accordingly, there are multiple lines of contestation and conflict around mobilities. From defining ‘who counts as a person’ when we look at the mobilities histories

of slaves, migrants, women, queers towards which non-human and living entities are granted permission to move, we see a striated battleground for 'kino politics' (Sheller 2018:13, 39).

If we turn to 'the social' we see that the ways in which humans has stratified and identified themselves with various groupings in the course of history might have pivots as different as land, neighborhood, kin, gender, ethnicity, language, culture, resources and many more nodal points. The differentiation processes run across the commonalities in ways that are more than complex. Even though we might try to appeal to 'humanity' as a homogenous joint force when we try to mobilize for example empathy or sympathy for refugees, the poor, the excluded such political unitary force rarely gains sufficient momentum. As powerful and potent as the human species is (much afforded by the technologies invented) we fail again and again to collaborate, to think about all humans along the lines of a 'commons'. Political mobilization across human and non-human lines of demarcation seems to be much harder in practice than in principle. If we (as species) really knew and took serious our connectedness to all other living entities we would probably have acted on the climate crisis in front of us. If we really feel connected across the socio-cultural lines of demarcations, we would have mobilized sympathy, empathy, and solidarity to act upon the unjust and unfair living conditions. These problems might be ascribed to tribalism and identity-warfare, or simply to survival battles for resources. At the end of the day we do find striated and stratified sociality across the Earth. There has been attempts before to analyze such troubles along lines of resources and class (Schultz 2020). However, much seem to suggest that we might need a more fine-grained analytical framing to capture and understand these troubles. Considering the Anthropocene and the climate challenges some have proposed to read these issues along lines of places and materiality as much as along lines of economic resources. Schultz' work on 'geo-social classes' is one such discussion (Schultz 2020). What this means is, that the ways in which social groups 'liv with' the earth, soil, and ground is the key. However, 'living with' is not just a sedentary, place-bound practice. It is also a question of moving to and from, and it is an issue of stewarding the flows of matter related to the soil.

According to Nail we are (also) living in the 'Kinocene' (2019). Not just humans and technologies move, so do matter and ecologies. In Nail's words '*we are witnessing the most mobile geological strata of the Earth's history*', and this is the Kinocene. We may not gain much clarity by adding yet another framing terminology. However, the merits of the Kinocene are not only highlighting the mobile ontology and the omnipresent mobilities of human and non-human matter. It also opens for what Sheller terms 'kino politics' (Sheller 2018:18). In other words, mobilities as matter of concern and contestation that becomes part of a new field of making politics on the Planetary level (Park & Pellow 2019). Together with Schultz' notion of new 'geo-social classes' (2020) this suggest a different way of engaging the political conversation of world-making and mobilities. The notion of geosocial classes suggests that the 'old' class rupture defined by ownership of the means of production is inadequate. In light of the climate challenges and the Anthropocene we should not just talk about who owns what, but also who uses the soil in what ways? What are the relationships between social groupings and the material, spatial, and geographical spaces of inhabitation and exploitation? In the words of Schultz: '*Exploitation happens when social groups live off other people's soil, disallowing collectives to inhabit a prosperous terrain of life*' (2020:207).

Critical feminist geographer Doreen Massey stated many years ago, that we (the human species) needed a 'global sense of place' in order to articulate a 'progressive sense of place' (1994). Even

though this was thought in relationship urban, regional and nation state politics there is perhaps some merit in going back to these ideas, albeit on a planetary level. What are the conditions we need to establish for a ‘planetary sense of place’ to emerge? And how might such a consciousness point towards a ‘progressive sense of place’ establishing, or at least working for social inclusion and solidarity? It lies well beyond the confinements of this paper to answer these questions, but my hunch is that they will only be found if we engage the world-making and mobilities from a point of view of ‘design’. Having seen how much damage ‘design’ (here a shorthand for human practice in general) have done, we could hope that the same potent agency may be directed towards solving the present matters of concern. We might ask, as do Escobar here:

Can design be reoriented from its dependence on the marketplace towards creative experimentation with forms, concepts, territories, and materials, especially when appropriated by subaltern communities struggling to redefine their life projects in a mutually enhancing manner with the Earth? (Escobar 2017:xvii)

This might be naïve and utopian, however design ‘got us here’ (Papanek 2019) so perhaps ‘design can get us out of here’. Here I am not thinking about ‘*getting away from the planet*’ but to get us out of the trouble we are in (even though Haraway might argue that we should ‘stay with it’, 2016). At least we may observe that ‘*in modern societies we design ourselves, although not under the conditions of our own choosing*’ (Escobar 2017:177). With this reference to Marx, we are back to the question of the ‘made’ and the constructed and artificial. It would be nice if we simply could ‘design back’ the process of unsustainable conditions. Unfortunately, we may be beyond a tipping point rendering ‘going back’ an impossible option. If the geo-spatial processes of environmental degradation are indeed irreversible, then we will not be saved by the reverse ‘designer logic’. We will not be able to ‘build back better’. However, assessing that in realist detail lies beyond my capacities.

6. Concluding reflections

The discussion in this paper is framed along the lines of post-phenomenology, STS, ANT, materialism, or what I prefer to term ‘material pragmatism’. In this research agenda understanding the mobilities of the techno-Anthropocene requires a deliberate disregard of academic and disciplinary scaffoldings. However, it also requires abandoning fixed scales as orientation points for the analysis. And finally, and most importantly it requires a re-articulation of the relationship between the human and the non-human. Whether the notion of the ‘Anthropocene’ is the best for this job might be uncertain. In this paper, however, I have wanted to take on the notion of techno-Anthropocene as a guide for thinking though how world-making and mobilities might be thought of in the contemporary day and age.

It means taking ques from the notion of ‘mobilities design’ as something that moves beyond particular spatial scales and rather into an ontology of mobile systems and landscapes of circulation that crosses natural ecologies and urban infrastructures, realizing that they have all been ‘made’ or designed as it were. And here I must stress that I am not thinking of any form of ‘intelligent design’ when it comes to nature and the Earth. I rather boringly just see another force of transition and change than human (but not an external force of a ‘great mover’ or God). We are simply looking at planetary mobilities systems and circuits, where some of these are made by humans and others not. However, and this is the point, none of these are existing in isolation. Rather the hybridizing of

human and non-human elements and systems seems to be what set us in the direction of complex ecological and interdependent processes. From a material pragmatic standpoint, it is not key if these are made by humans or not.

Much of the conversation about the world-making and mobilities capacities in the techno-Anthropocene has to do with the political imaginary and the ways in which we may manage to problematize current solutions with an eye to different futures. In Urry's words we need to be 'democratizing futures' (Urry 2016) and one tool to enable such an envisioning might be the utopian imagination as an; *'expression of the desire for a better way of being or of living, and as such is braided through human culture [...] utopia in this sense is analogous to a quest for grace which is both existential and relational'* (Levitas 2013: xii-xiii). In this paper I have wanted to think through how a notion of 're-design' could be comprehended as a material and imaginary practice of 'redoing' the world. I know we might not be in such a privileged position as to 'redo' the world as we like. Various warnings about tipping points, great accelerations, and ecological devastation seems to suggest that we are in no privileged position to neither rethink or redo (or even undo) things.

Let me end this talk by referring to the French artist Pierre Huyghe whose art piece 'Offspring' can be seen at the art museum in Aalborg at this very moment. The piece contains six individual works where I will just touch on two of these. The 'title work' is Offspring.

Fig 2: Offspring (source: <https://www.screen-club.com/projets/offspring/>)

This is an AI-based system decoding the music piece Gymnopédies of Eric Satie and replays an infinite set of variations that is combined and reacting on the air humidity, temperature, and artificially made fog. The second work is 'Zoodram 2' which is a quasi-artificial ecosystem where the made and the 'natural' is combined with an eye to the complex combinations of emergence and unpredictability. In a water tank various non-human species constructs new ecologies sustained by a complex socio-technical and artificial life-sustaining system.

Fig 3: Zoodam 2 (source:

https://www.google.com/search?q=pierre+huyghe+offspring&rlz=1C1GCEA_enDK870DK870&source=lnms&tbn=isch&sa=X&ved=2ahUKEwjt-qXOy8P4AhUrR_EDHQpbCawQ_AUoAXoECAEQAw&biw=1280&bih=609&dpr=1.5#imgrc=AI BH75pyXoeCmM)

In Huyghe's works we find world-making as interspecies and human-technology interdependent relationships, where the boundaries between human and non-human, and between the natural and the artificial blurs and ultimately evaporates. Here we are strongly and forcefully reminded by Donna Haraway's words when she says that: '*Pigeons, people, and apparatus have teamed up to make each other capable of something new in the world of multispecies relationships*' (2016:19). We may think of this as a 'creative measure' of the effects of the Anthropocene (Barry & Keane 2019).

Redesigning world-making and mobilities in the light of the techno-Anthropocene might be beyond our capacities as a species. However, there are other agencies distributed across the planet and perhaps the real lesson is simply to learn about these interspecies and intersystem interdependencies, not via human capabilities and omnipotence but rather the opposite. We might end up as spectators to a grand show of planetary agencies that we might have set partly in motion, but which now seems both out of reach and out of control.

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