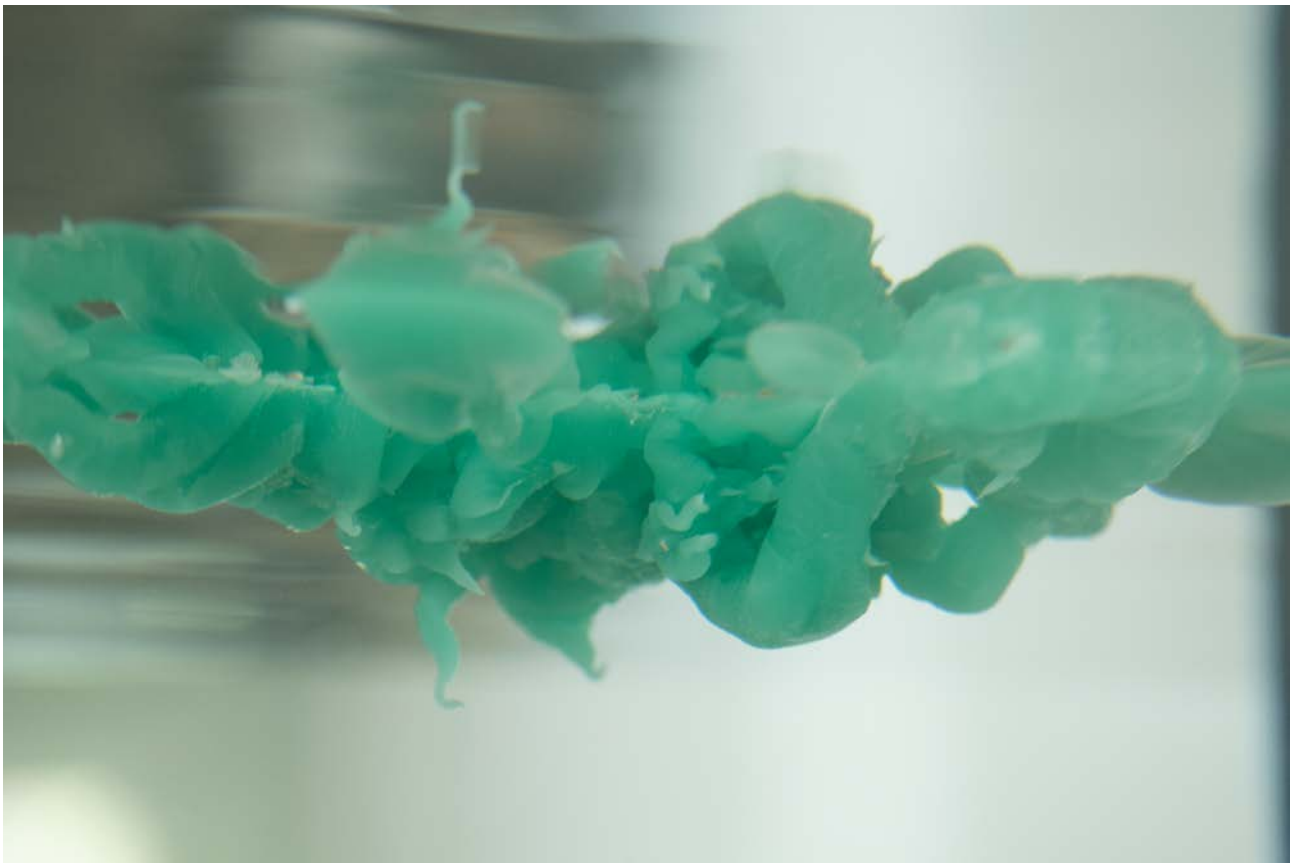
Towards xeno-design cultures



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Abstract

Current trends within the design discipline deal with complex and often invisible ecological entanglements by investigating the transformative aspects of design practices, but they do so by focussing very much on the human as the subject of the inquiry. The aim of the practice-led research this paper sketches out is to investigate means and methods for a more-than-human-centred design approach, preliminarily referred to as “xeno-design.” Whereas design is commonly defined as a complexity reducing and problem-solving thinking and making, within this new paradigm the role of design becomes a facilitating one, where complexity is embraced, making is (if at all) a participatory process between human and non-human agents, and outcomes have the open-ended character of an inquiry.

Concepts such as the Anthropocene or the Technosphere acknowledge not only the irreversible influence humankind had on the Earth's environment but also the limits of our cognitive capabilities. These tendencies are brought forward by increasingly opaque subject-object relations on multiple scales which transform ecology, such as climate change, as well as developments in machine learning and sensing that demonstrate the boundaries of the human intellect and sensorium. As a consequence, we are facing what contemporary philosophy refers to as the *Copernican blow* or *trauma*[1] – a *metanoic*[2] condition caused by the realisation that the human is no longer the "radiant centre."[3] The intermingling of biophysical and social entanglements on a planetary scale, such as the causes and effects of carbon, nitrogen or iodine circulation, is attempted to be measured, compressed, visualised and thus taken to the centre stage of many scientific and artistic investigations. But what becomes apparent instead is that the challenge of overcoming the anthropocentric world view requires a fundamental shift in perception to begin with and only subsequently modified actions. Although there is enough evidence for ecological harm, how this evidence was brought into being often exceeds a single human lifespan and thus our comprehension. When dealing with objects that transcend any localisation in time and space, for the individual there is no immediate feedback mechanism and therefore no perceived causality. Attempts to close this *perceptual gap* are addressed by researchers, artist and designers alike. Yet there is a tendency to reinforce the notion of a nature-culture divide by implying a parasitic relationship between humankind and environment. For example, the wide-spread "invasion" of the Zebra mussel due to global trade and sea acidification and in consequence the decrease in biodiversity is a popular narrative referred to when making the argument of how mankind influenced the environment. Even though this might be an alarming development (for humanity) it's a one-way argument that prioritises human agency over those of other non-human entities. To put it in Kirsty Robertson's words: "(…) the way that the Anthropocene tends to be used as always-already underway highlights a distinction, and by proxy a hierarchy, between humans and nonhumans (or "more-than-humans") that perpetuates a nature-culture divide and suppresses ways of understanding the world that might be more relational than taxonomic."[4]

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[1] Bratton, 2015
[2] Metanoia describes the change in one's perception after a certain event, reading or encounter, which affects one's conception of the world.
[3] Reed, 2017
[4] Robertson, 2016

Status quo in design theory and practice

Design for transformation and critique seems to be omnipresent: the political and poetical quality of design were subject to several inquiries of the discipline within the last years.[5] Consequently, an emphasis on design as a vehicle and mediator becomes the norm. Despite these attempts a radical shift hasn't taken place. Benjamin Bratton argues that it is due to the "anthropocentric naiveté" that such a human-centred design practice is not a long-term solution to anything but "the most pedestrian problems."[6] In fact, critical and speculative design practices are often blamed for being too superficial, self-referential, and concerned only with the livelihood of a privileged Western society.[7] Design for the other or a more-than-human-centred design are only occasionally discussed and are not part of design research, practice or education yet. The implications of new technologies are often subject to critical or speculative design proposals but frequently result in products or services designed for the human everyday life,[8] thus emphasising appropriation rather than a renewed *subjectification*, that is an alternate construction of the individual subject. However, a truly critical design should do justice to the diversity of species and ecology as a whole.

Descaling vs. multi-scalarity

There have been several attempts within the last years to postulate theories and models that favour entanglement, situatedness and non-human agency. However, knowing *that* the anthropocentric world view and its correlating approach to design have to be challenged hasn't been transferred yet into knowing *how* to perform this shift. Designer and author Patricia Reed argues a self-image remodelling is needed for "being and intervening in the world,"[9] which demands an immanent radical openness to the non-given. She further operationalises this thought by calling for a "necessity to instrumentalize an interface

[5] Von Borries, 2016, Jonas et al., 2015, Dunne and Raby, 2013
[6] Bratton, 2016
[7] Bardzell, J. and Bardzell, S., 2013
[8] Dunne and Raby, 2013
[9] Reed, 2017

between conceptual ideality and physical reality."[10] I would like to take the idea of the interface—a term well-known to design—further. If we tackle the *design* of this interface which mediates between the part and the whole, the individual and the ecology, different scales of time and space, as a design task we can address it on two levels: 1. the design outcome and 2. the design process.

1. The design outcome as a negotiator

In "Ecocriticism on the Edge"[11] Timothy Clarke proposes that the subject of inquiry (e.g. a design object) should be deranged of its scale in order to take hold of the bigger scope of entanglement. A city thus would not be seen as a human-built and organised infrastructure but as a temporary accumulation of minerals, metabolisms and algorithms. This demystification or disenchantment of reality aims to estrange the viewer in order to illustrate some chosen issue from another point of view. E.g. in his one-hour film *Sinofuturism,* Lawrence Lek subverts the Western perception of Chinese culture as being exotic and strange. The movie proposes that what is mistaken as contemporary China could be viewed as "sinofuturism" – an invisible movement run by an algorithm without intention or authorship but based on artificial intelligence. It embraces and subverts seven key stereotypes of Chinese society, which become pillars of the algorithm's performance—Computing, Copying, Gaming, Studying, Addiction, Labour and Gambling. The zooming in and out and reframing of the contexts allows for a more holistic understanding of the human as a part of a bigger whole, nevertheless it assumes that there is some underlying truth to be uncovered, i.e. a governing algorithm. Attempts like these are more inventive than they are actionable and they inevitably replace a certain world view with another. Jane Bennett argues that "what demystification uncovers is always something human, for example, the hidden quest for domination on the part of some humans over others, a human desire to deflect responsibility: for harms done, or an unjust distribution of (human) power."[12]

[10] ibid.
[11] Clarke, 2015
[12] Bennett, xiv

2. The design process as a negotiator

Another approach that I would like to introduce here is more aligned with a process-oriented understanding of design. New materialist thinkers like Bennett view the world not as several distinct objects but in terms of continuities. Accordingly, agency only exists in relation, thus becomes a matter of *intra-acting.*[13] Matter is *vibrant matter* being in a continuous state of becoming. Vibrant matter or active matter is derived from Deleuze' and Guattari's concept of the *assemblage*[14] where relationships between parts of a system are not fixed but fluid, constantly influencing one another. Moreover, and in the light of new materialism, theoretical endeavours are undertaken to replace the anthropocentric worldview with concepts that are in favour of situatedness and multi-scalarity such as *kinship, agential realism* or *diffraction.* Donna Haraway argues that a post-human thinking from the point of view of a human subject is in contradiction with the term, which is why she argues for the more sophisticated concept of *companion species.*[15] Instead of having either the human as main agent or an accumulation of different subjects, she points out the interrelations of co-existence. Karen Barad argues in a similar direction by appropriating the process of *diffraction* from optics.[16] A diffraction pattern does not map where differences appear, but rather maps where the effects of differences appear. Therefore, instead of focussing on individual objects the relations and formation processes might provide us with a more comprehensive understanding of reality. In "The Mushroom at the End of the World"[17] Anna Lowenhaupt Tsing describes the mutual relationship between humans and the non-humans through the phenomenon of the Matsutake mushroom. During many years and in different geographies she traces the history of co-habitation of mushrooms, trees, and men and outlines the ecological, economical, and cultural dimensions of this relationship. Her work is an open-ended observation rather than an attempt to evaluate. It doesn't shock, blame or deny but fosters awareness and empathy. Approaches like this give importance to a relational nature of reality and knowledge production, treating humans, non-humans and the environment as interfering elements of one system, or ecology, which is mobile and in constant search for homeostasis.

[13] Barad, 2007
[14] Deleuze and Guattari, 1980
[15] Haraway, 2014
[16] Barad, 2014
[17] Tsing, 2015

Xeno-design as framework for a new design ontology (and practice)

For design to meet the challenges implied by the Anthropocene it has to take into account not just the human (human-centred) but the assemblage of humans and non-humans that constitute realities (more-than-human-centred). Transferring this concept into design has implications both for theory and practice. It calls for a new design ontology to start with, where designing is treated as a process of becoming as well as a new set of rules and methods which bring these reflections into being. Whereas design today is commonly defined as a complexity-reducing and problem-solving thinking and making, within this new paradigm the role of design becomes a facilitating one promoting the open-ended character of an inquiry. An assumed problem-solution-correlation is always the result of masking complexity. Thus instead of praising its synthesising and transformative qualities,m xeno-design should embrace the volatile, uncertain, complex and ambiguous. Already existing participatory design methods would need to become radicalised. Consequently, a xeno-design practice calls for collaborations with other disciplines on matters such as materials studies, sustainability, urban planning and human-computer-interaction but also for a design process with other, non-human agents—machines, animals, forests, bacteria. Design may become a lab practice as well as a studio and outdoor activity. This said, unmaking or the care and maintenance of an already existing object, whether man-made or not, might be more true to a xeno-design approach than the redesign or invention of something new.

The specifications and applications of a xeno-design practice need further refinement and testing. The aim of this paper is to lay ground for a new design ontology that moves beyond the current human-centredness by proposing a theoretical framework drawn from developments in new materialism. Understanding design as xeno-design means not being absolute and outcome-focused but treating the design process as a moving target and aiming to adjust our understanding of ourselves, our environment, and collective horizons.

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Bio

Michaela Büsse is a PhD candidate at the European Centre for Art, Design and Media based Research and a Junior Researcher at the Critical Media Lab. Her research focusses on means and methods for a more-than-human-centred design approach. She is interested in speculative and experimental design practices, alien phenomenology, new materialism and philosophies of technologies and ecology.

Michaela has an interdisciplinary background in design, media and urban studies and obtained post-graduate degrees in Zurich (ZHdK, 2014) and Moscow (Strelka Institute, 2017). She regularly lectures on critical design and media studies at various institutions, including Zurich University of the Arts, Bern University of the Arts and Prague College. Michaela is part of the editorial board at *Migrant Journal* – a six-issue publication exploring the circulation of people, goods, information, and even fauna and flora, around the world – and co-founder of ^ *studio* for xeno-design research.