

## **'The idea that we can design an ecology is something we should be wary of'**

In conversation with Martín Ávila and Betti Marenko

**Karianne Fogelberg [KF]** You both address design less as a discrete and self-contained artefact than as a set of practices, processes and modes of actions in a wider context – as something that is created by different forces and by different actors. According to you, in what ways is this understanding of design as bound up in a set of relations, or ecologies, significant for contemporary design practice? And by extension, could it nurture genuinely ecological modes of existence?

**Betti Marenko [BM]** I think that design has a huge responsibility – and when I say design I specifically refer to the assemblage of design industry, design education and design practices – because design contributes greatly to determine the ways in which ideas, discourses and what is known as 'wicked problems' are manifested into tangible realities with the power to affect people and to create worlds. This is something that we discuss a lot with our product-design students at Central Saint Martins (fig. 1–6), who enrol to become product designers and then, roughly half way through the course, they come to me and say: 'I don't want to do this, I don't want to be responsible for landfill.' It's as if the penny drops! They become aware of the connections, and realize the extent to which design is implicated. And this is great, because at this point

<sup>1</sup> Martín Ávila refers to the talk by Betti Marenko on 12 January 2017 at the Academy of Fine Arts Munich within the context of the lecture series *Hybrid Ecologies*.

<sup>2</sup> See the contribution from Martín Ávila in this volume, pp. 230–232.

the tools, techniques and thinking that inform design can be put to better use. We must acknowledge that design worldwide, as an industry, is particularly responsible for landfill, and this responsibility must be addressed within design education. At the same time, design and designers play a crucial role in the process of changing these scenarios. Now, if there's a hinge that connects and divides – and I really liked Martín's notion of devices as these artefacts that divide, give shape, arrange and organize – if there's a hinge between the thinking and the making, then design is clearly that hinge. Ethical, environmental and political considerations should be way more prominent than what they are now within design theory and practice, in order to address these ecological modes of existence that you were mentioning.

**Martín Ávila [MA]** What has been happening is that most artefacts, the devices we use, tend to disconnect us from what is usually called 'nature'. We normally live in spaces like this one [*making reference to the auditorium*]. There's not even a plant here, and this isn't unusual, it's standard. Whether we are in our vehicles or in our houses, we get to be mediated by technologies and material arrangements that include (some) humans and exclude most other-than-humans. And when we try to get in tune with our surroundings, we're in trouble. Still, every single artificial creation that we have come up with during recent years has tended to make us more comfortable and more detached from the ecological substratum that supports us and that we are part of. We tend not to see the implications of this. Being disconnected from these places and spaces where we come from has consequences both ecological and psychological – a lot of people now are suffering from seeing and being immersed in only artificial landscapes. They are in need of therapy with animals or therapy through walking in the woods. This is very common in cities across the world. Even though we must always think in terms of 'degrees of ...', and keep in mind that we're co-evolving and constantly adapting to and with the 'artificial' environments we create. We're very much in need of technologies, especially artefacts, that actively amplify – and this is what Betti was talking about<sup>1</sup> – that put us in contact with, make visible and somehow give us other forms of access, other forms of tuning in to the multiple other-than-human registers. If you think of the example of the cycle initiator (from my project *Spices-Species*, 2014–16):<sup>2</sup> It attempts not only to grow a plant which many of us have in our house but also to put us in tune with the plant's needs; with its pollinators and with other beings and systems that the plant depends upon, thereby hopefully becoming an agent for cohabitation. If we have a relationship with the plant, we might as well extend it to what the plant needs. What's required is a design for other-than-human beings that connects us to them. There are very few existing products that will put us in contact with something not human, unless we're talking about pets, but the pet industry is yet another world. The ecologies we have in cities are human-centred in so many ways. So this is a very critical aspect of these ecological modes of existence. Right now, we're very detached from the physical and ecological reality of most beings.

**BM** I think you're absolutely correct in describing those examples as ways of establishing relationships with nature, the type of nature you have shown us, in ways that make the user very much a participant of what's going on rather than a consumer or a detached user. You didn't mention your paper about shower gratings and scorpions tonight, but I recommend reading it because it is very much about creating a sense of responsibility that otherwise would be completely negated. This is similar to when we talk about 'living in a post-industrial society' simply because we no longer see production. Production has been delocalized, but the fact that we don't see it doesn't mean that it doesn't exist. So I think to facilitate access and to make us all feel part of the chain of action and reaction, which some of your design interventions provide, is a terrific way to go for design. I think you're absolutely correct in describing those examples as ways of establishing relationships with nature, the type of nature you have shown us, in ways that make the user very much a participant of what's going on rather than a consumer or a detached user. You didn't mention your paper about shower gratings and scorpions tonight, but I recommend reading it because it is very much about creating a sense of responsibility that otherwise would be completely negated.<sup>3</sup> This is similar to when we talk about 'living in a post-industrial society' simply because we no longer see production. Production has been delocalized, but the fact that we don't see it doesn't mean that it doesn't exist. So I think to facilitate access and to make us all feel part of the chain of action and reaction, which some of your design interventions provide, is a terrific way to go for design.

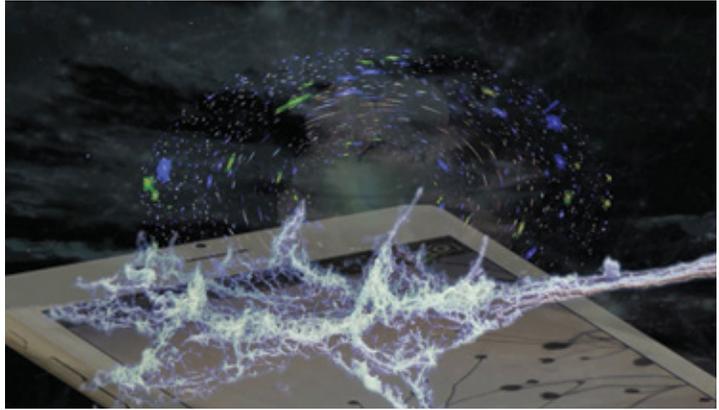
<sup>3</sup> Making reference to Ávila's project *Domestics* (2014–2016), discussed in Martín Ávila, Henrik Ernstson, 'Realms of Exposure: On Design, Material Agency and Political Ecology', in Henrik Ernstson, Sverker Sörlin (eds.), *Grounding Urban Natures: Histories and Futures of Urban Ecologies* (Cambridge, MA: MIT Press, 2019). In this project Ávila proposes a shower grating designed to prevent scorpions, which live in the canalisation, from entering the shower, while at the same time making their existence visible and exposing our fears.

**KF** The way you, Martín, describe how we're being detached from surrounding processes and non-human species sounds almost as if it were an alienating situation, and that design could contribute to exposing us to a greater degree to our surroundings. With the work you presented, Betti, I wonder if there's a similar sense of alienation when it comes to digital objects?

**BM** I wouldn't really use the word alienation, because we – and I talk about as 'we' humans actively engaging with digital objects – we love it, we absolutely adore it, we can't stop it, we behave in a borderline obsessive compulsive manner with our smartphones and all the other digital companions we use daily. This is a fact that we should acknowledge. I'm not saying that we should celebrate it, but we should really be mindful and reflect on what that is doing to our way of thinking, of behaving, of moving, of holding ourselves as embodied agents. We should also remind ourselves that all this didn't exist ten years ago – I'm talking specifically about the smartphone here – and it's a tremendous change that's happening worldwide. Even though not the entire world population has access to digital devices and connection, still we're dealing with hundreds of millions of humans actively and relentlessly engaged with the same type of embodied behaviours. Just think about the repertoire of gestures that our bodies are performing constantly – and the extent to which it has been

<sup>4</sup> Anna Munster, *An Aesthesis of Networks. Conjunctive Experience in Art and Technology* (Cambridge, Mass.: MIT Press 2013).

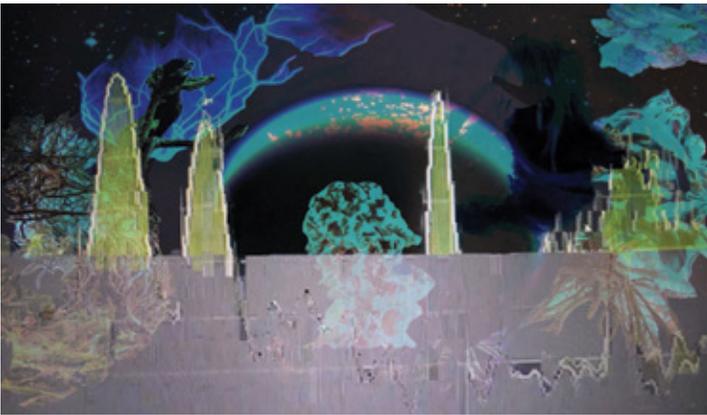
<sup>5</sup> Betti Marenko, Philip van Allen, 'Animistic design: how to reimagine digital interaction between the human and the nonhuman', in *Digital Creativity*, 27:1 (2016), pp. 52–79, <https://doi.org/10.1080/14626268.2016.1145127> (accessed 1.8.2019).



reduced and streamlined in order to accommodate particular typologies of interface design. Maybe that doesn't mean that we're completely alienated as human beings, but it certainly is something we should be thinking about. Not in a negative sense, but in order to extract from what's happening already, the intelligence and modes of thinking that can take us further – modes of thinking that I argue should be more non-linear, oblique and not necessarily consciousness-based.

**KF** In a text with the interaction designer Philip van Allen you mentioned the predictive behaviour patterns which Anna Munster talks about, and how this tendency in computation design to predict searches, for instance, or to predict what we want to consume next, how this in fact tends to turn potential into something that actually does happen.<sup>4</sup> And then you elaborate about how in your collaboration with Phil van Allen you're trying to seize the potential of the unpredictable to counter this current development.<sup>5</sup>

**BM** Yes, the tension between prediction and potential, capture or openness, that's one of the key issues of the work I have been doing together with Phil, trying to find ways of injecting unpredictability in



interactions that otherwise would be dictated by expectations, predictability and complete linear efficiency. This is what I more broadly call ‘digital uncertainty’, the potential for unpredictable and un-programmed outcomes in computation. Obviously, the claim for the value of digital uncertainty has to be taken within the right context. When I type my lecture for tonight, I would like to be sure that when I press ‘save’ my computer is actually saving my work rather than performing some unexpected action! However, while in some circumstances it’s essential to know that users’ expectations are reliably fulfilled by the machine, in research scenarios the value of uncertainty clearly becomes highly significant. Some of the questions Phil and I have been working on are these: Is there a way to capitalize upstream on uncertainty (at the research and development stage), where designers, developers and software engineers are thinking about and experimenting with how to imagine the new interfaces of tomorrow? What will the interface of the near future look like? These seem to us to be the key questions. For instance, the next thing after touch interfaces is going to be voice recognition. This is what our digital companions demand from us, that we talk and they respond. So unpredictability is already creeping in in ways that are perhaps already somehow uncomfortable.

**Fig. 1-4**  
Maggie Roberts (from Orphan Drift, in collaboration with Ranu Mukherjee), *Unruly City*, video stills, single screen HD video, 16 min., 2016.

Built around the Hexagram 49 of the I-Ching, *Unruly City* brings together densely layered collaged video and animation, charting a course through a shifting urban imaginary emerging in the shadow of climate change and bio-capital, creating an amalgamation of potential spaces, materialities and creaturely life. A mutating world set in a forest infected by sublime references of ancient and futurist entities and a pervasive foreboding of cosmological uncertainty – portents prescient of profound ruptures in the fabric of realities. The artist creates techno-animistic and techno-genetic images of a radical, non-conscious co-evolution of human and machine that produces new hybrid organic/inorganic life-forms that are beyond human and confound all humanist and capitalist agendas.

<sup>6</sup> Martín Ávila, *Devices. On Hospitality, Hostility and Design* (Gothenburg: Art Monitor 33/University of Gothenburg, 2012), pp. 129–158.

<sup>7</sup> Ávila, Ernstonson, 2019 (footnote 3).

Now – and this is another question – is there a space for uncomfortable interactions? And what can we extract from this type of interaction with our devices? One way to see this is to extract creativity and to foster the potential that would otherwise be captured by the apparatus of digital control, profiling and data trading. And that will be the way we see it at the research and development level.

**KF** Another parallel in your work is that you both investigate how user-centred approaches to design are running into their limits. And following from that you are both engaging with attempts to no longer exclusively place the human at the centre of design, albeit in very different ways. Martín, from your description of the mutualistic radio for instance, *Radiophonum Piscea Energia*, from the series *¡Pestes!* (2011), and the concept of giving food to fish,<sup>6</sup> it becomes clear that on the one hand the design intervention is an attempt to depart from conventional anthropocentric practice by taking as a starting point not merely human needs but the conditions and potentials of local ecosystems and the way humans interact with them. On the other hand, it still privileges the human user or – as you write in the context of your scorpion grating – ‘our *device* still *divides* and organizes an “above” and “below”’, so the hierarchy is still in place.<sup>7</sup> Could you elaborate on this inherent tension?

**MA** The project was aimed at investigating and making explicit the ways in which the artefacts that we create are part of the biosphere in a very general sense; what they are dependent upon, what they feed on, how they become ‘things’. Hierarchies are always enacted, and they are always dynamic, temporally and spatially. The project used the notion of symbiosis to explore its three main forms of interaction: parasitism, commensalism and mutualism. There were many questions: How does the ‘artificial’ complement and support the existent? To what extent can we or do we actually cohabit or co-evolve? At the same time it’s still we who design artefacts, so there’s always a degree of anthropocentrism. I’m not saying that by taking a biocentric perspective we should (or could) avoid the *anthropos*, not at all; we should recognize it as being plural. When I think of interactions among humans and other-than-humans, this is still unavoidably led by (my) human considerations, but with the acknowledgement of other forms of life. We already discriminate against humans in all kinds of ways, so think of the kind of things we’re doing to other-than-humans – they aren’t even part of the considerations. So conceiving designs that acknowledge other beings is already a step in the direction I am talking about. As I said, we still have hierarchies. We still have the human deciding what’s to be done or not. In my proposal there is no participatory design for fish; they just eat. There are many levels of difficulty. Designing in the name of someone else is also problematic if you pay attention to the ethical aspects. So again this is unavoidably anthropocentric. I don’t see a way out of this except for acknowledging and articulating as much as we can all that we know while keeping uncertainty principles. We don’t know if the fungi that affect the fish by making

them 'sick' are eco-systemically more important than the fish. We still privilege the fish, because we like them; they trigger more affection from us than the fungi do. We tend not to sympathize with the decomposers in a forest, but we like the trees, we like the birds, we like the butterflies. This is a very human perspective. If we start conceiving designs based on the potential ecological implications that artefacts might have, then the needs of other beings relating to our designs also come more and more into focus. This could be one way to obtain a more complete picture of what we might develop in the near future.

**BM** You have touched upon something quite relevant, which we perhaps tend to take for granted. We have this notion of nature that suits us. When you talk about 'we like the fish, we like the tree, we like the butterfly', this is the same notion of the cute and the pleasant to the eye that a lot of design interventions based on anthropomorphism work with. But nature in itself is a cultural construction, so different moments in history, different human assemblages, will produce different versions of what nature is. What is nature after all? Is nature something we must save and preserve, starting from the cute panda? Or is it also something that could be terrifying and destructive, like viruses or earthquakes? Or is nature something we should idealize and turn into a goddess, which for instance is what the Gaia notion is about. There are so many conflicting and simultaneously occurring notions of what nature is, but we should remember that we're creating this variety. In other words, all these notions are profoundly anthropocentric, and in order to break free from this (toxic) perspective we must acknowledge the multi-species, other-than-, more-than-human ecological milieux we are an inherent part of, and in coexistence with them build new forms of knowledge. And this process demands humility, as well as images of thoughts, new thoughts to think with. I see designers as being in a position of being able to capture the intersection between these images, the figures of thought and the tangible expression of these thoughts, a little bit earlier than others. That's the kind of sight they have, which they have cultivated in order to change the world. I think that designers should really pay attention to this.

**MA** This is something I planned to include in my presentation. Tonight's session is called 'Designing Ecologies' and I called my presentation 'Ecologizing Design' – to somehow get away from the designing-ecologies title. One way of understanding designing ecologies in a constructive mode would be the design of artificial systems to complement natural systems. That's how I understand it, and what I'm trying to do. But designing ecologies also suggests or might be understood as control over nature. The idea that we can design an ecology is something we should be wary of. We should really *not* go into trying to decide for the fish, but – as much as we can and understand – do it with the fish and for the sustenance of the systems that keep them alive. Avoid adhering to the legacy of mastery of nature, dominion, control – all those things which we need to get away from. We need

to work with uncertainty principles. In different ways, both Betti and I are looking at 'the accident', the unexpected, what is out of control, as something that we also need to embrace, as a positive element and aspect of design. For example, 'not knowing' might be a more constructive way to relate to others, and doubt might be a source of affirmation.

**Audience 1** I started a project at the Technical University here in Munich three months ago. With a background as a cultural anthropologist and social scientist, I spent a lot of time working through the theories you point to, Deleuze and Guattari and post-human philosophy. Now I'm working in a project with urban planners and landscape architects. Some of them consider themselves designers, and some of them are very smart and talented, but none of them would have understood your talk, Betti, because they have never dealt with stuff like that. I think there's a need to develop a common language in order to be able to bring the notion of ecologizing design or actual philosophical ideas into design processes. This seems to be something really important if we want to have transdisciplinary projects and bring these ideas forward.

**BM** I think that's an absolutely valid point. It could be quite tricky for designers who might see themselves as makers in the first place. But I'm completely convinced that it's fundamental for both disciplines – design and philosophy, and this of course applies to many other disciplines – to branch out of their own 'silo', and requires effort. It's a matter of creating a common languages, so we have to work at creating more platforms, where that exchange can actually be possible, can be practiced. And luckily for us, we live at a moment in which there are terrific programmes at a lot of academic institutions, that are truly interdisciplinary, where different stakeholders, different competences come together to work on a particular theme. And the beauty of it is that whenever different disciplines are working together, *something* is created. Obviously the first part of this type of work is really to figure out how to talk to each other.

**MA** Perhaps in a concrete way, with regard to your current project, let's say that if you're designing a building in a particular place, you could try to think of the relationships that might put us in contact with other than human beings, for example plants or rodents, that are local and that might foster the urban ecosystem, but who might have become invisible to us. We – whether designers, architects, philosophers or whatever – mostly use tools for analyses that don't help us to act holistically. And we aren't really aiming to change this, because we don't have the capacity to empathize with a huge variety of beings at the moment, we don't see the relevance, nor understand the complexities of the inter- and intra-actions. Scorpions and cockroaches, for example, are undesirable beings in our eyes, yet they are beneficial to the sewage system. Although they have partly adapted to sewage conditions, sewage systems aren't designed to relate to them at all.<sup>8</sup> Try to see what surrounds us and to see what is unique to a specific



place. 'The unique' is a very tricky issue in this context, but it's crucial to talk about it. If we pay attention to most right-wing conservative politics, they have, by association with locality and 'identity', always connected deeply to ecology and privileged some species over others. For example, since I work in Sweden, what's associated with Swedishness isn't just Vikings and picturesque red wooden houses, but also, as everywhere, the mammals, the birds, the plants, and whatever comes from there, which is perceived to be valuable by those who identify with that nation as a place. It's important however to think in dynamic and no longer in static terms, as if these were things to be only preserved. We must understand aspects of symbiosis, of adaptation, of mobility, of scale, of interdependencies with localities, and create designs that reflect an understanding of and through local ecosystems while maintaining life-affirming praxes. We navigate a very thin line between nationalisms that identify with a location and genuine pluriversalisms or cosmopolitanisms that can emerge from bringing ecology and diversity together – not only cultural diversity but biodiversity in a dynamic sense. What we nevertheless have to strive for is an engagement with different forms of interspecies design.

**Fig. 5-6**  
Virginia Toffetti, *Survalgae Kit*, inhaler made from glass and algae fiber 3D print filament, 6,5 cm diameter, 15 cm height; set made from acrylglass, paper obtained from algae fibre and recycled post consumer waste, capsules with algae culture *Chlorella Vulgaris*, calico cloth, salt, 31 cm width, 9 cm height, 25 cm length, 2017.

*Survalgae Kit* is a survival kit for urban pioneers living in 2030 – an unbreathable future when urban air pollution forces humans to wear inhalers in order to breathe. This eco-fiction project imagines a scenario where humans have to craft new types of symbiotic relationships with the nonhuman in order to survive. *Survalgae* is a survival kit that exploits the properties of algae to perform carbon biofixation so that the user is an active participant to the photosynthetic cycle of oxygen production.