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The Technosphere, Now

continent.
Issue 5.2/2016

The Technosphere, Now

A special issue of
continentcontinent.cc
in collaboration with
Haus der Kulturen der Welt
Berlin

"Geography
matters exquisitely."

Donald MacKenzie

p. 6/7, 10/11, 14/15
Haus der Kulturen der Welt, Berlin
continent. Technosphere interview space
2015, Oct 1, Thu — 2015, Oct 2, Fri

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continent. Technosphere interview with
Peter K. Haff at Haus der Kulturen der Welt,
Berlin, 2015, Oct 2, Fri

Discussions in and on the Technosphere

The technosphere is an emergent weft of our geo-systemic fabric. The *Technosphere* project team of the Haus der Kulturen der Welt (HKW) and the para-academic collective and publication group *continent.* have collaborated on an unwinding of technospheric matters, ideas and experiences, that we hope you, dear reader, will trace out with us. Our inquiries have taken shape through acts of personal encounter, co-production and co-publication: inter-views. We attempt here to convey to you a set of unassuming communications about the technosphere, straightforwardly expressed through the editing and elaborating of dialogic, spoken conversations. Drawing urgent academic research discussions into public discourse demands that we address one another, directly. The technosphere itself demands, and offers, that we learn to speak with new kinds of conversation partners.

The "technosphere" is geologist Peter Haff's term for the planetary-scale networks of transport, information, energy and media operating at a scale and functional efficacy that we can now compare with geological and climatic forces—the soils and rocks of the lithosphere, the waters of the hydrosphere and the winds of the atmosphere. Its emergence as a thematic is driven by the same witnessing of intertwining natural environments,

vast socio-technical forces, and increasingly diverse technological species and spaces that has precipitated discussions of the Anthropocene, through HKW and elsewhere. Both "technosphere" and "Anthropocene" are terms describing an earthly globe enwrapped and forever reworked by human amplifications of matter and energy. Perhaps somewhere between this new technological 'sphere' and our new human 'scene' is the Earth itself, an aspersed milieu increasingly interrupted and altered by the astonishingly dominant living population it made possible.

The *Technosphere* project at the HKW (2015-18) began with an initial gathering in Autumn 2015, and continues into 2016 with the launch of the *Anthropocene Campus: The Technosphere Issue*, an eight-day teaching and learning experiment, in which new forms of knowledge production and dissemination are tested (e.g.: this interview format and publication experiment), and the implications of the technosphere examined. The first occasion for the ongoing collaboration between *continent.* and HKW was the latter's hosting of *The Technosphere, Now* event in October, 2015 in Berlin. Editors from *continent.* came from various corners of the globe, invited to immerse themselves in and extrapolate from the talks, discussions, presentations and demonstrations held there. Interview-discussions held with the likewise international set of researchers, theorists, artists and scientists at this event precipitated an online special issue of *continent.* for April 2016, featuring articles titled for the names of our interviewees. This special issue is also outlined in the booklet you now hold in your hands, and *continent.* has further developed a number of collaborative interventions within HKW's Technosphere spaces and programming.

The *continent.* team extended impromptu invitations to speakers, engaging them in a semi-improvised discussion—an auxiliary conversation eliciting a more individual narrative about their

interests and research trajectories. Through these conversations was captured a distilled, if occasionally digressive, alternative to the plenary expositions, case studies and pre-prepared arguments presented in more polished and public forums. As personal reflections, these hint at the links between the individual and their passions for research, drawing out how epistemic trajectories are at once driven by a desire for proximity, and by a striving for distance and objectivity. The notion of the technosphere emerges in these discussions as individuals and collective efforts of human beings, seeking to know the world in a very particular way.

Included in this publication are brief excerpts from transcripts of the conversations we are grateful to have had with but a small number of *The Technosphere, Now* event participants. You are invited to read the full special issue of *continent.* online at continentcontinent.cc. Navigation of both this booklet and the online materials is supplemented via a set of compiled terms and keywords—an 'index'—labeling and connecting the names, nomenclatures and terminologies, subjects and subjectivities which emerged through our discussions in and on the technosphere. This 'index' is included on pages 69-75 of this booklet, and as part of the *Letter from the Editors* at continentcontinent.cc.

The act of publica(c)tion is always one of hopeful generosity, of putting things and words and ideas into the world to be opened, closed, maximised, minimised, discussed, praised and critiqued. Our humble intent here is to remind ourselves of the necessity for linkages between the personal and the ecological, the individual and the collective, the technosphere and an anthropoi that would deign or dare to think it.

Thank you, dear reader, for your kind attentions.
continent. & HKW *Technosphere* project

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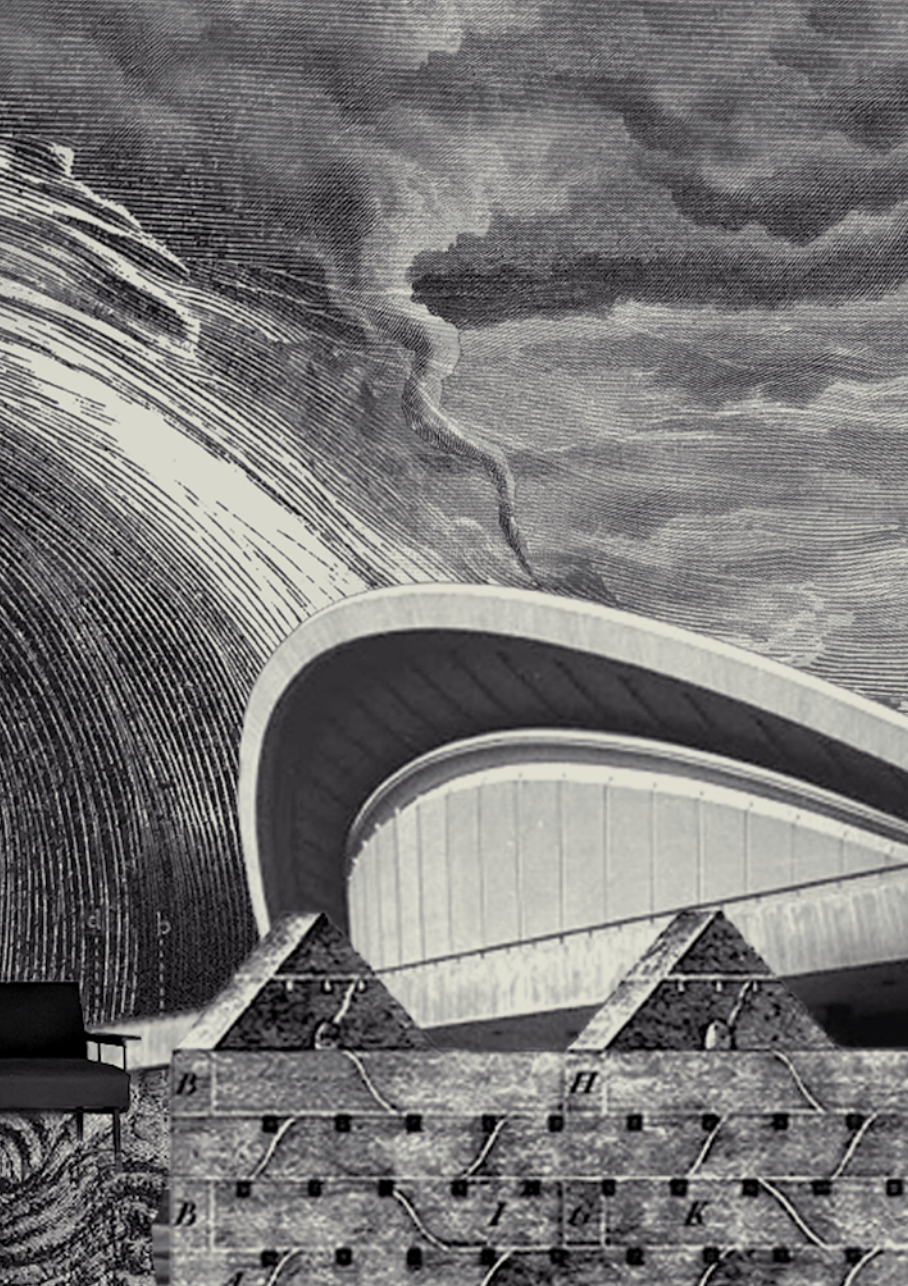
Extracts from
The Technosphere Interviews
HKW, Berlin

2015, Oct 1, Thu — 2015, Oct 2, Fri

Peter K. Haff
Erich Hörl
Lino Camprubí
Jennifer Gabrys
Mark Hansen
S. Løchlann Jain
Scott Knowles
Donald McKenzie
Birgit Schneider
Arno Rosemarin
Oliver Sann
Lucy Suchman
Bronislaw Szerszynski
Masahiro Terada
Mushon Zer-Aviv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"I noticed that [...] during our field season in the summer, we often went off to an undisturbed place on the globe to look at how the earth really worked. These are harder and harder to find, so finally I said, 'well, really, it should have been clear to me before, the earth is doing something different now than it had been doing before.' But it is part of Earth 's function, so how could you understand all these new features of the modern earth such as the building, the room we are in here, the audio recorder you have—these are pieces of the earth, this is the earth's function—but it does not fit into the normal geological paradigm, so what kind of frame could you build up to try to bring more coherence to thinking about society, humans, technology as part of the earth's systems and other manifestations of what the earth is doing?"

• • •

"There are many layers of causality that circle down, and so rather than trying to start at the human level and move up, we could try to start from the top—at the level of a global system of technology and humans. What are the most basic things that ought to be true even if we don't understand how the details work? [...] I was thinking about this as a scientific problem, and really motivated by geological nature as the ultimate sense of what we're talking about. That's why we come to spheres, like hydrosphere, lithosphere, atmosphere, these are all sub-disciplines but they are really part of the geological earth in some way and I think the technosphere is another such example."

• • •

"If you want to look at it from the outside, to get as coherent a picture as possible, sometimes you have to avoid

diving into the details, and I needed a name for that: so I called it the technosphere."

• • •

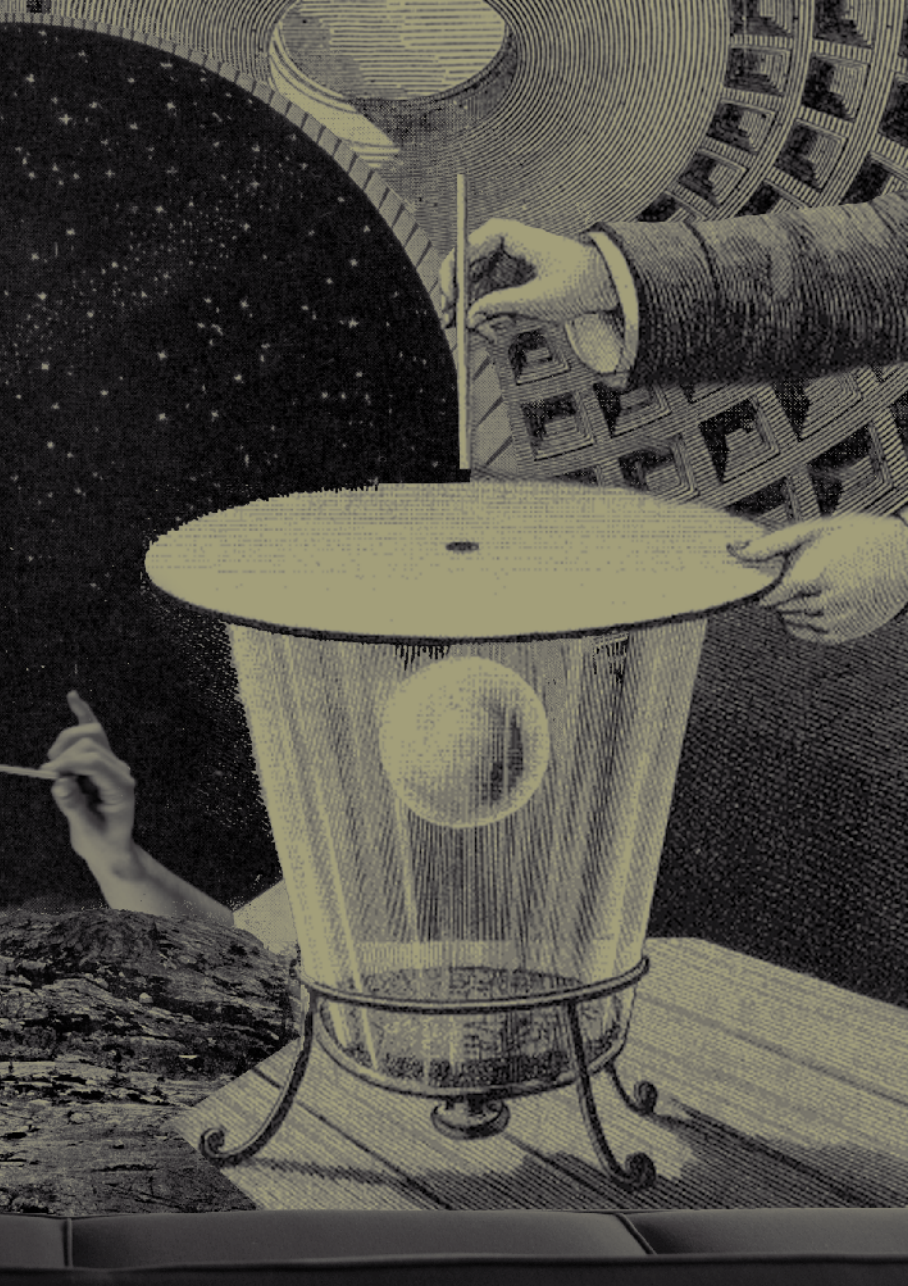
"The great thing about taking organisation as a cue to getting a handle on the technosphere is that so far we haven't had to say anything about how the parts actually function, because who knows how it really functions? So all the things people do, all the things they build, all the institutions, come under this larger outside view of organisation, which has its own rules. You can step back and say "whatever is going on below, it's going to need to respect that", and it's not always obvious if you start down with the weeds—the weeds have certain things they can and can't do—and the virtue of doing it this way is that you don't need to know anything about the weeds to start with."

• • •

"I'm a part of the technosphere: my clothes, this little tag here, my cell phone, those are the obvious things you would point to, the pieces of technology. But I consider myself and humans to be technological artefacts, they are basically manufactured by the technosphere. Most people put humans in the biosphere: you can put them there, but really we wouldn't exist without the technosphere, we wouldn't have the food, the water, the housing, the necessary security apparatuses, communication, transportation, 99.9 % of humanity could not live."

• • •

"We built ourselves out of technology, that is necessary and a product of humanity."



"I love that Peter Haff introduced technology as a question of geology—and I think that techno-geology and techno-ecology could somehow resonate and really work well together."

• • •

"So technology was always inscribed in nature, and nature controlled this difference. Technology played its role within the metaphysical frame of a teleology of nature, or what we might call occidental teleology. What happened in the 20th century is that there occurred a certain re-evaluation of the difference of techniques and nature, and now the side of technology starts to control the other side of the equation. That's a really interesting historical move; this is the technological destruction of occidental teleology."

• • •

"Autonomy is the big problem of technology. Cybernetization is one of the big drivers of the technosphere. I could say—following Peter Haff who speaks in terms of complex systems—that systems theory is a possible mode of description, but is it enough? It is the task of the humanities to ask if the becoming autonomous of technology, let us call it technosphere, forces us to rethink our thinking as well."

• • •

"If you look for a different sense of the outside you really have this simple notion of the outside, looking from the outside on a sphere; but I would always ask for a thinking after the death of god that has to condense of course also conceptually. I would always ask 'what other notions of outside are imaginable?'"

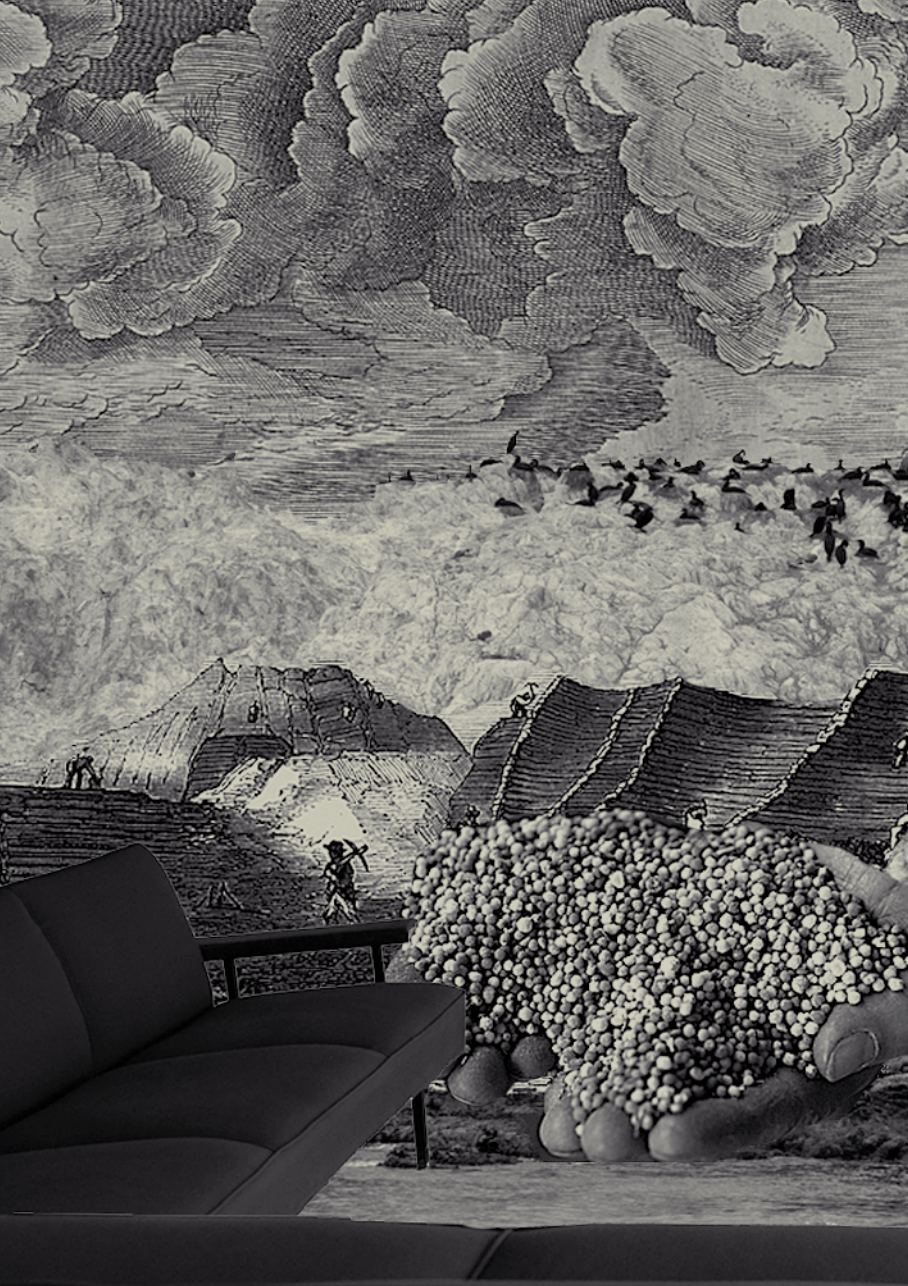
"We have a concept of the outside from the old transcendental tradition, like a god looking at his creation. But we need another concept of the outside for describing the technological condition."

• • •

"In machinic ensembles, as Simondon describes, the human still has the position of a conductor of the society of objects, and in another passage, in a lecture, he speaks about the human as translator between the objects [...] what I love in the concept of the technosphere is not that the human is completely crossed out—because the human is of course still part of the technosphere—but, first of all, his perspective is not dominating anymore. The human perspective is not the perspective for describing the technosphere. The technosphere forces us into a post-human condition—we are compelled to think in a post-human way because technicity evolved from machinic ensembles, as described by Simondon, to the technosphere where the role of the human is even not that of a conductor, but it is as an element of this complex cybernetic entity, or these multiple entities belonging to the technosphere."

• • •

"The control issue is what is connected to human agency. I have called it the 'anthropocenic illusion.' It is the anthropocenic illusion that has been destroyed by the technosphere. There was the anthropocentric position of the human that gave him most of the agency (he was the model subject), the human subject was the only one having real agency. The interesting thing is that this construction caused a lot of technological progress and brought us into a situation where exactly this kind of proscription to the human turned out to be an illusion."



"Every time we talk about a global environment in which we need to solve specific problems, my question is: who is the 'we'?"

• • •

" Humanity does not exist as a social entity that makes decisions. Decisions are always made by groups and there are always conflicts of interests, and when we talk about resources there is competition until death. So I don't see a 'we', and in order to talk about the technosphere, I think we may be assuming one 'we' or even one 'techno'—because there are different apparatuses, and different connections."

• • •

"I understand what they want to hint at, which is that the biosphere does not exist by itself anymore, it is entangled with technology, but what do we get from that? Also interesting is that it hasn't always been that we talked about a 'global environment', and it might have something to do with Cold War geopolitics, environmental monitoring of the entire Earth, and the ability of seeing the Earth from the outside, from a satellite."

"Inevitably, while things might sediment or concretise into systems of interconnection, I would hesitate to refer to them in the usual overarching way, as definitive structures. I think systems can have a very deterministic logic when describing practices, and ways of life. So I use the term 'environment' instead, as a way to circumvent the logic of systems a bit and to think about how environments become particular kinds of inhabitations."

• • •

"I hesitate to think of something as totalising as a technosphere, although I very much take [Peter Haff's] point that technology has become enfolded into our practices, ways of life, such that we can almost think of it as a geological layer, or stratum, or process."

• • •

"I am looking at the blockages and the disruptions and the points where information might even fail to have the effect it is meant to have. Rather than a free flow, it is pools and eddies, backroads and garbage dumps, Superfund sites—all kinds of ways in which the technosphere is not a singular entity."

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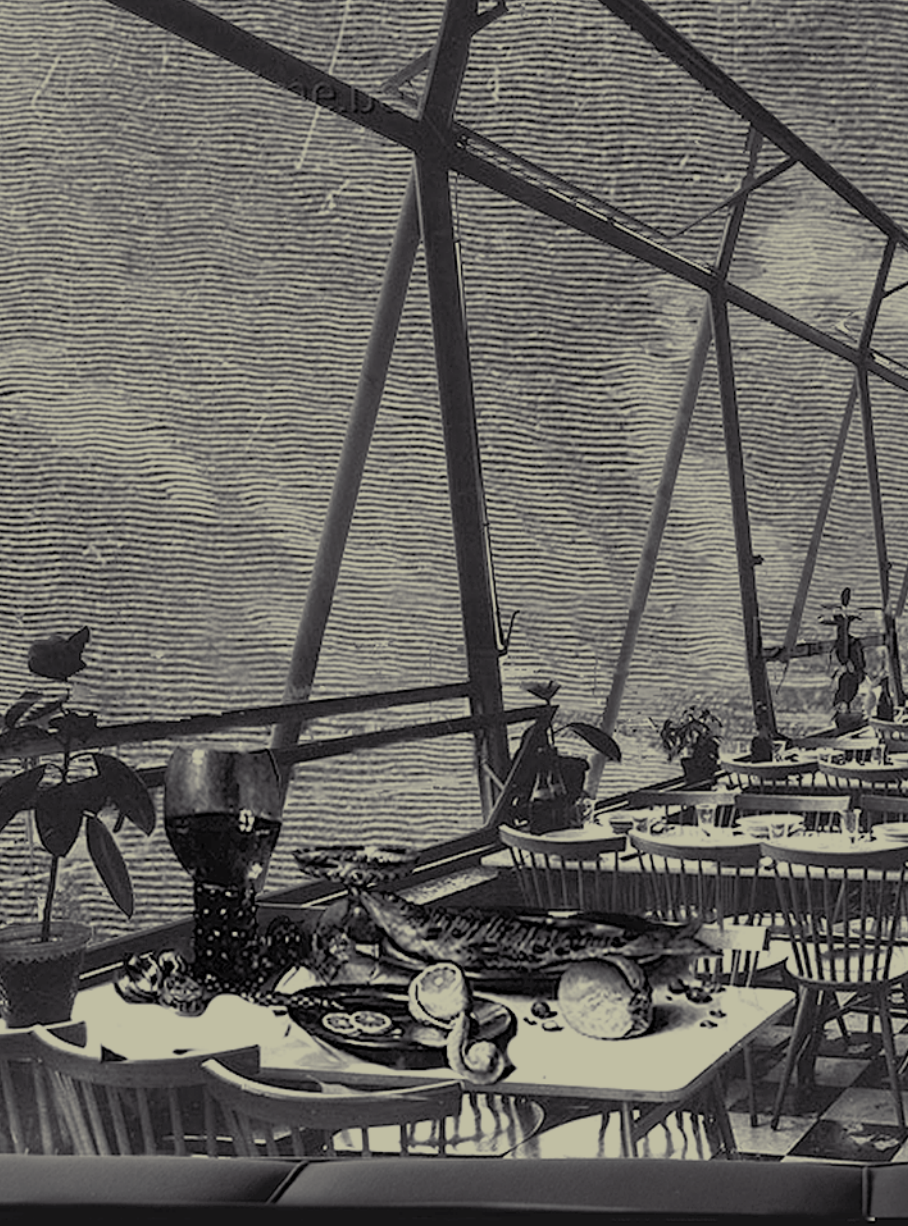
"The Earth is an *object to be managed*—sensing is a tool for doing that, and sensing has come down from outer space to the ground, and is now distributed through multiple different environments."



"The technosphere [...] is a systematic process that is operating on a level of complexity certainly higher than ours, humans and human perception and so on, and implicated in it in complex ways that make it difficult to respond in simple ways."

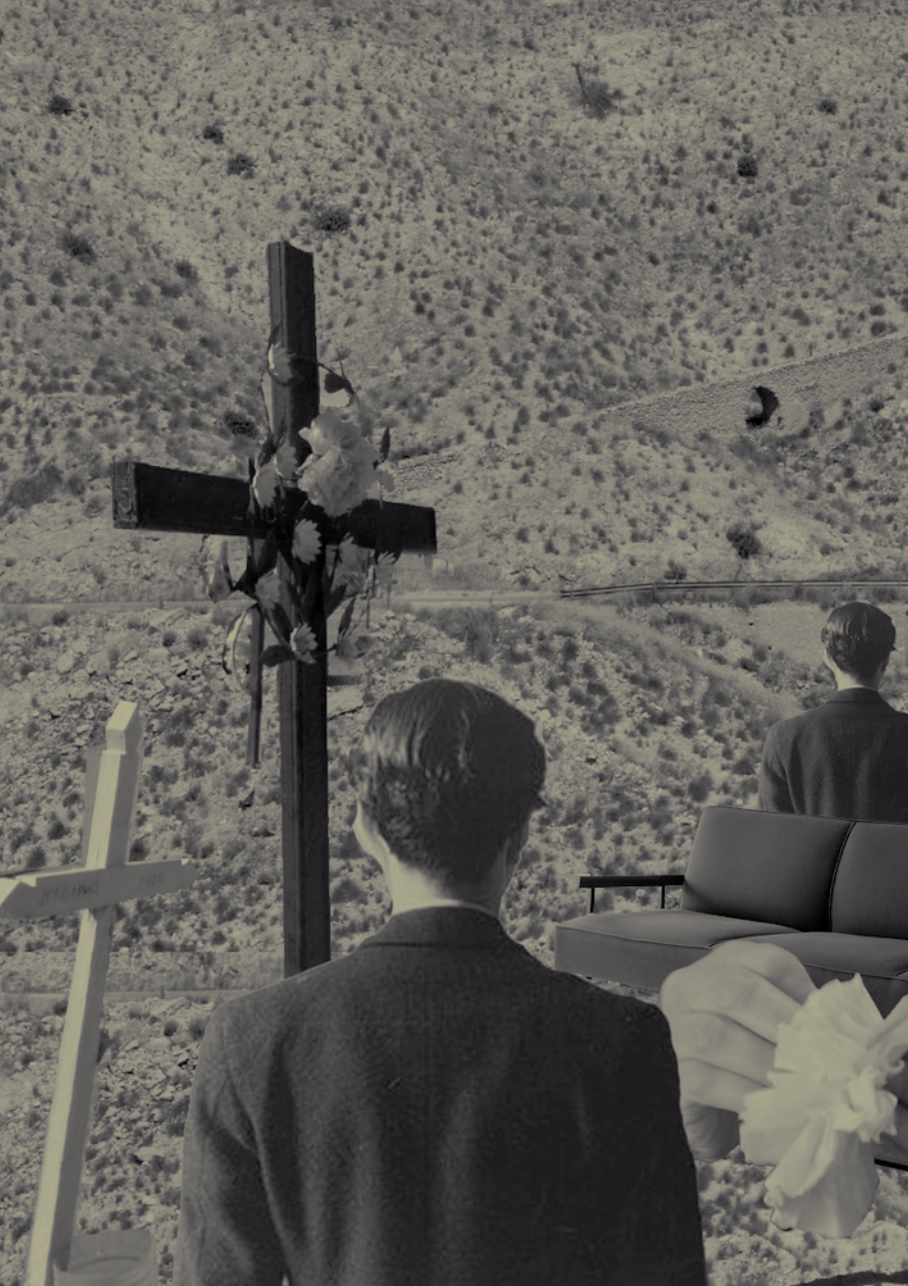
• • •

"I am committed to the idea that humans have been technical since we evolved in conjunction with the development of tools and language, and the means of transmission of our knowledge, and I think that if one broadens that beyond the human, the technosphere is not simply the introduction of simple technologies, but I would say it is part of the processs of cosmological evolution."

"The technosphere, as a sort of rhetorical flourish, attempts to draw attention to the ways that technologies imbue all aspects of our lives. In that sense, it's useful to open a conversation and perhaps in a strategic way to get funding to have critically important conversations [...] I'm learning so much about various technologies as well as how people think about them."

• • •

"Whats 'you'? Who is the 'we', who is the 'I'? There isn't a differentiation, just a spectrum of you-ness and we-ness, these relations. No one asks the question what you mean by 'you' in that situation?"



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"Last year I was thinking about a paradigmatic object for the Anthropocene and I came up with an asthma inhaler; because if you take it apart, it's aluminium, and it's got plastic, then of course there is the medicine inside, it has propellant in it. And then why is an asthma inhaler necessary—because of breathing problems, and pollution in our cities. And that's just a handheld, completely inoffensive thing that we can look at, and that saves lives. But it is a necessary appendage now of the technosphere reality—that we have created."

• • •

"The technosphere is an identifiable realm [...] it is conceptualized generally as geological—that there is a marker of human activity having to do with the creation of tools and machines. It is a realm that we might think would be identifiable in a future time as a distinguishing point between a past when there was not complex technological activity on Earth, into a present and some sort of indeterminate future [...]"

• • •

"We have been thinking about the technosphere in terms of satellites a lot lately too. A lot of the discussion about the technosphere is a way of talking about how we get to such and such a carbon level. But the atmosphere is full of other things too: it is full of satellites and debris, so the technosphere is not just terrestrial, it is not just a railroad network, it has these other dimensions to it."

"The technosphere is maybe a way of talking about [...] intentional, highly complex technological systems."

• • •

"[The technosphere] feels like it is real and perhaps separate from us, and I do not accept that, and I don't find that very useful because ultimately, the reason to have concepts like this is to understand power and change over time. What we have done is just discovered a new geological strata that is full of cadmium that feels a little separate from us, and also cuts off—potentially—the possibility for reform and change—if we feel like it is operating out here, and that were not part of it."

• • •

"We are in an interesting time where people are grasping for these large, stretchy concepts that help them understand global change. 'Anthropocene', 'technosphere', and 'resilience' are concepts that we're hearing a lot about. And I think they are all incredibly useful, but none of them should become totalising. Particularly, I get concerned when some of them become a space for us to shrug our shoulders and say that this is just the new reality—that's terrible."

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Per Tylen
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Parall. 15.
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Parall. 14.
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Parall. 12.
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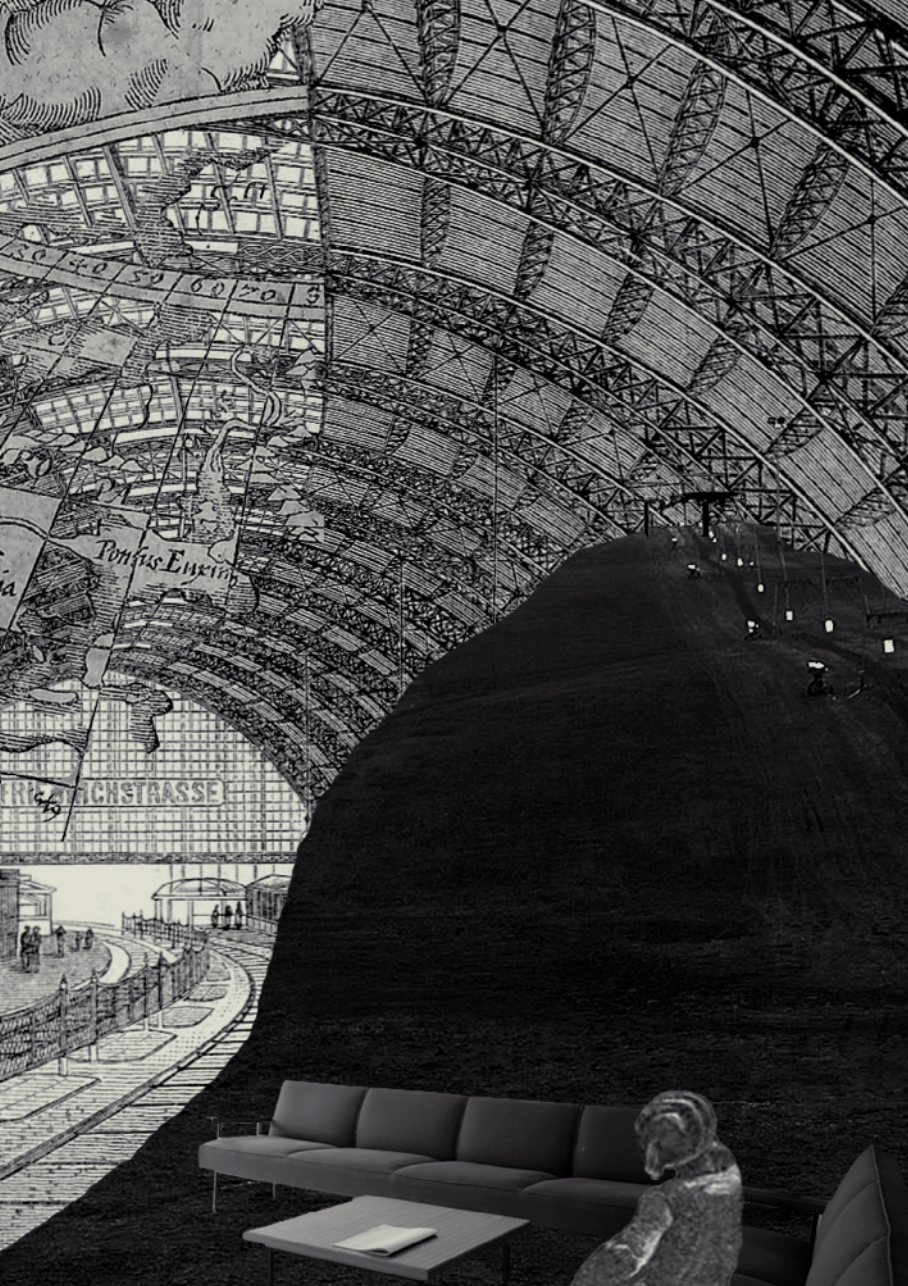

Pontus Euxinus
ICHSTRASSE

"What I have done throughout most of my academic career is to take aspects of science and technology, very broadly, and understand what really matters to peoples' lives—and try to unpack them, disentangle them, understand how they got to be the way they are."

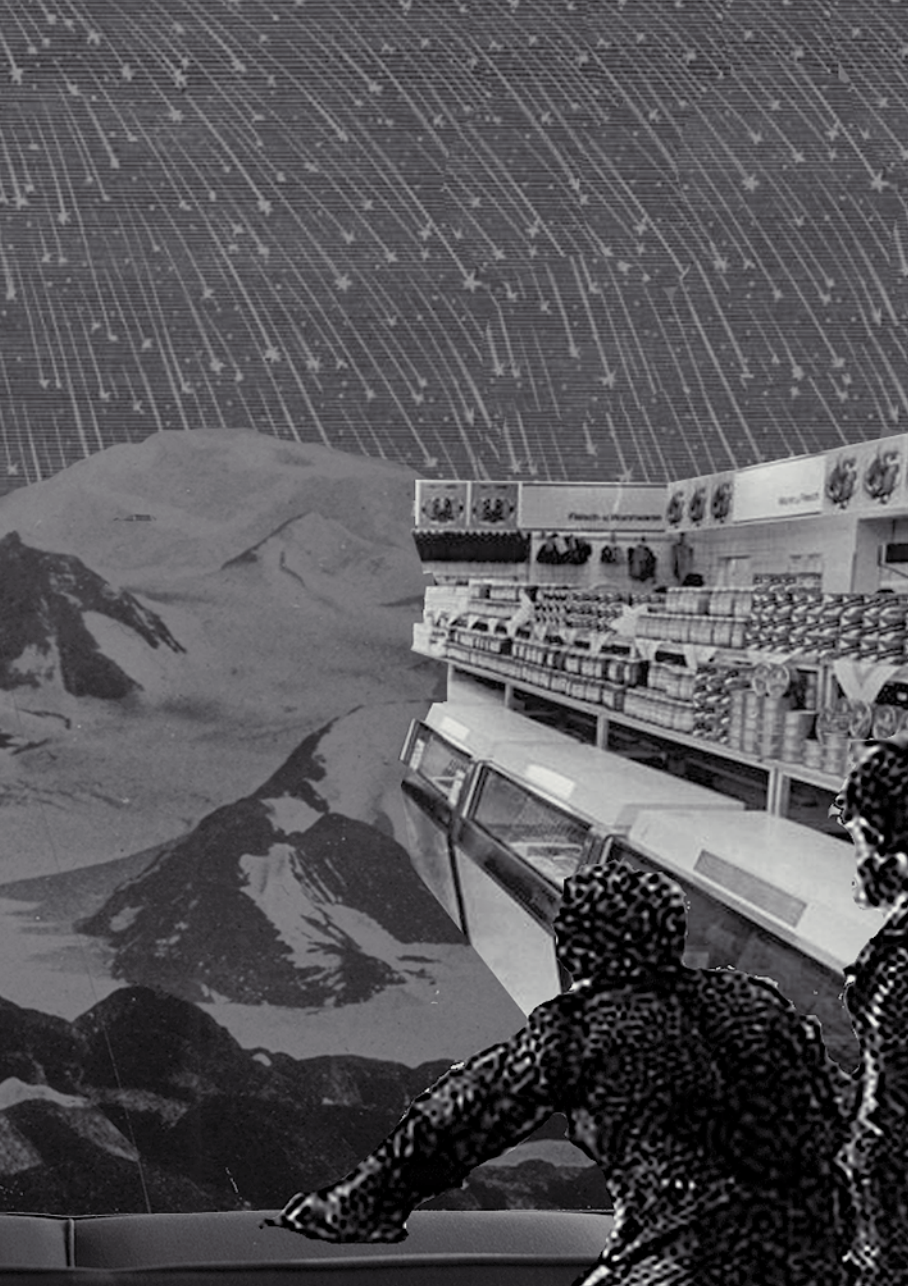
• • •

"The air around us is full of wireless signals [...] At the moment, we are living our lives in a world saturated by signals of one kind or another. I'm old enough to remember when people were paranoid about electromagnetic radiation and its effects on health. If that really were a concern, we really are being zapped. Just about anybody I know has a wireless router in their apartment or their house, and nobody is worried about it any longer."

"There are so many layers of technological systems operating on us. There are those that are more obvious—we might all tend to immediately say 'the Internet,' but it is only one system of many. We have the transport system, we have financial systems, we also have bureaucratic and security systems, television broadcast systems. I think of such structures as networks and these networks are all related to each other."

• • •

"The technosphere is a spatial object, maybe even an environment, a capsule, a dome, a body, a space. We are inside of this space—a space interwoven by many networks and wires, as well as wireless communication waves. It is a matrix; it gives order to things and how they communicate with each other, and how they get transported, and moved from one part of the world to the other. It is global."



"So your mother said 'Drink milk because of the calcium.' No. She should have said, 'Drink milk because of the calcium phosphate.' Then the whole world would be different because we would know what is in our bones, what is in our cells. We do not have much knowledge about the other part of the compound, the calcium compound."

• • •

"The smokescreen of energy, and carbon, and fossil fuels distracts from the phosphorus problem—it is not just the average person, but also the research and policy communities that are ignorant. A lot of people do not know what phosphorus is, but it is probably more important than the oil or coal we are burning, since there is no substitute. You have to get three grams of the oxide P2O5 every day, if you do not want to be malnourished. There are about 1 billion people already on that list, there will be a population of 9 billion in 35 years, at which point there may be another billion malnourished, who are not getting enough food. Food is not just carbohydrates, that is the thing. So, our dependence on these minerals—this should be something that comes out of the technosphere research project, as well as governance around those limited resources."

• • •

"We still call them natural disasters but they are not actually natural. They are a play between nature and ourselves, but we do not seem to learn this lesson. So, the technosphere research project is half a learning forum, and it is incomplete because of the human situation, our take on nature and how we want to manipulate it."

"The very character of the technosphere is invisible to us [...] because we never grasp it fully—because the human being is not capable of getting an overview as such. If you ask me about technology as such, then that's a different thing, but that's only just a small niche, within the technosphere."

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"The mistake is to think that it is something we control, or can control, individually. The one defining thing is that it is bigger than an individual; but how big it is, nobody can say. It is the same with the Anthropocene. We are trying to figure out what we can't, which is overwhelming in a sense."

"I'm a U.S. citizen, so I'm plagued with guilt about that, and a lot of my work is a critical engagement with that responsibility."

• • •

"We are living in a time where technological imaginaries are tremendously dominant frames of reference for us, as well as actual technological infrastructures."

• • •

"Some of the most interesting projects take a particular site or particular artifact, and unpack that to show both the specificity of that site or artifact, but also its interconnectivity, and the ways in which you can read out of cultural imaginaries, the political economies and so forth that connect things."

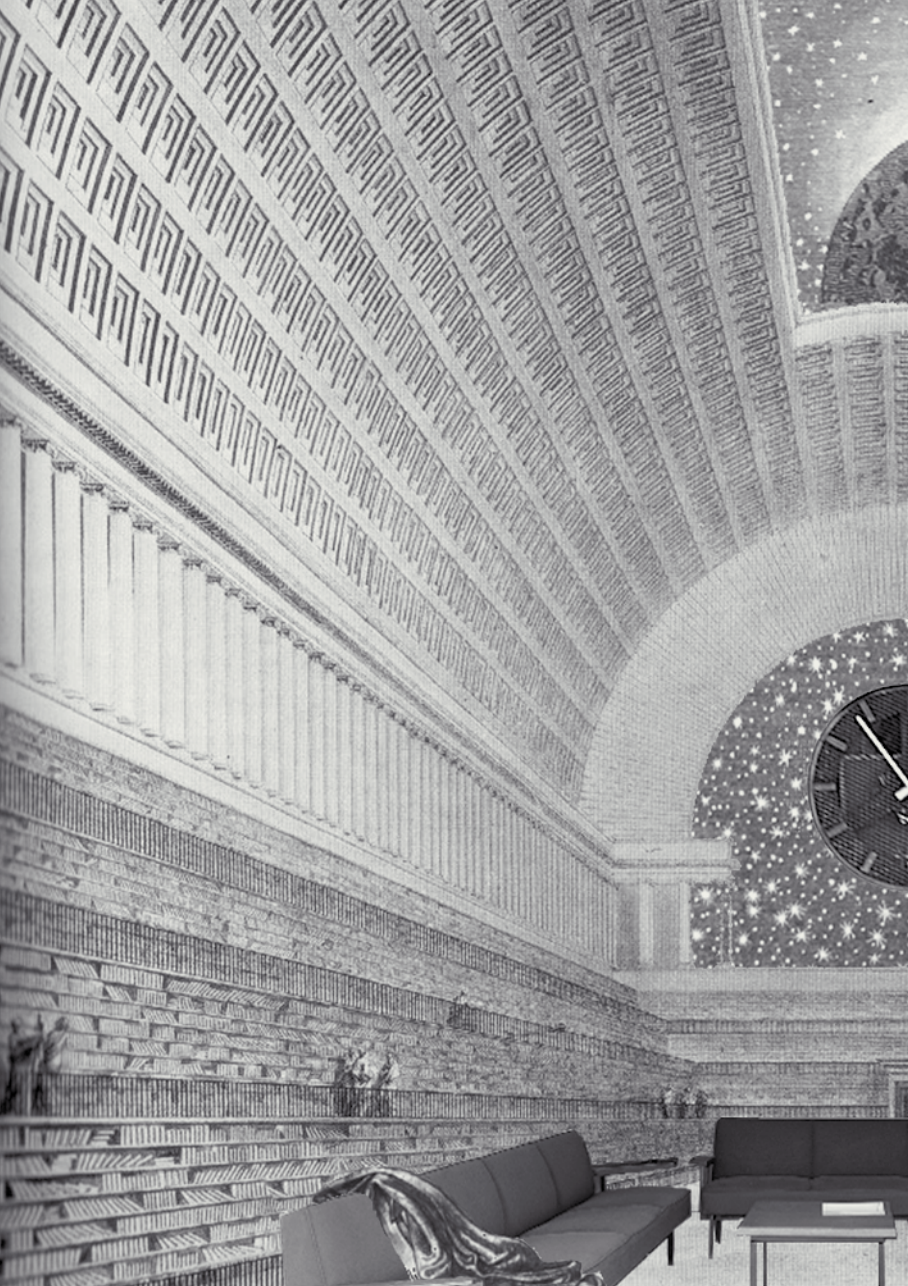
"Because the technosphere, in a sense, is a process, isn't it? Certainly I have devices on me, and obviously my clothes and my body; in a sense, I am a part of the technosphere, depending on which way you look at it. Is that a useful way to think about it? I would prefer to discuss about how we are determined by it, I think that is more in the spirit of the technosphere concept."

• • •

"The technosphere is a candidate concept for thinking about what the earth will be next."

• • •

"Self-organising systems persist over time by exporting entropy, by exporting disorder around them, so to what extent is that what's happening with the technosphere? It has this beautiful self-organising logic to it, this sort of cold, inhuman self-organising logic, but at what cost?"



"How we behave is a product of technology. What I wear is made by technology, the time on which I depend is a product of my watch and therefore of technology. So, almost all things are regulated by technology. I think this is what is being implied by the technosphere concept."

• • •

"For me, the idea of the technosphere is combined with the idea of co-evolution. [...] So the idea is very provocative, because it insists on the mutual influences at work in the process that develops humanity and subjects as well as other things. This perspective provokes questions about the techniques of nonhuman animals (or the techniques of living things) in order to adequately account for problems in technology."

"The way the NSA sees data and the way Wikileaks see data are not so different. They have different political perspectives, but they share the belief that this [data] is who we are—so we either have to 'get all' or we need to 'hide all'. I don't think this [data] is who we are."

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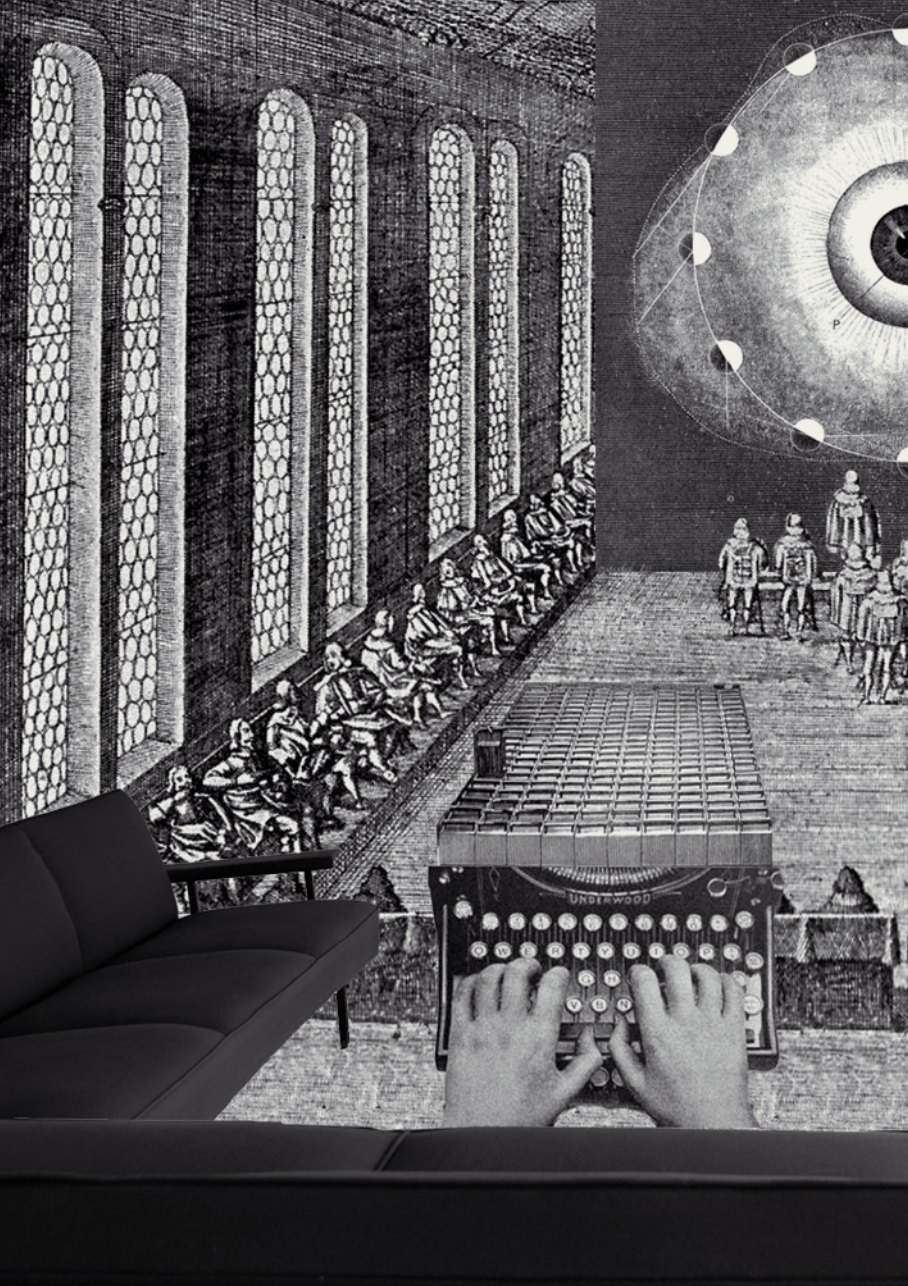
"If you've ever tried to make machines process data, you understand how messy it really is, how far it is from the myth of Silicon Valley techno-determinists who would like a direct line between reality and data."

• • •

"When I look at technology, my questions are about the ideology behind it, and not this extraterrestrial-type perspective that we are subjected to. Because if we take that extraterrestrial perspective, I do not see how it helps us to evolve our agency—our political agency, creative agency, and so on."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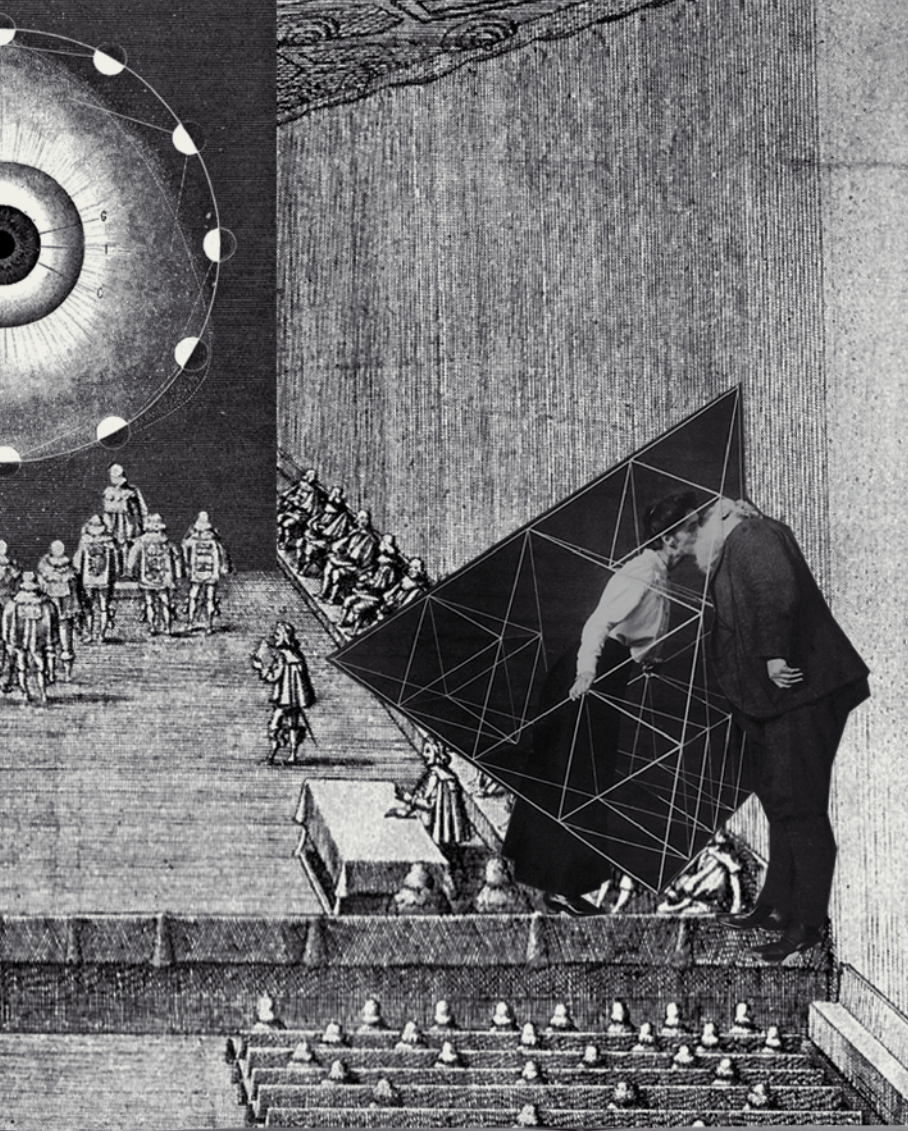

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Drones Lucy Suchman

E
Earth Lino Camprubí,
Jennifer Gabrys, Peter Haff,
Erich Hörl, Scott Knowles,
Bronislaw Szerszynski
Ecology Erich Hörl,
Jennifer Gabrys,
Masahiro Terada
Edwards, Paul Oliver Sann
Energy Lino Camprubí, Peter Haff,
Erich Hörl, Arno Rosemarin,
Birgit Schneider
Entropy (→ Death, Fossil)
Arno Rosemarin, Birgit Schneider,
Bronislaw Szerszynski

Environment Lino Camprubí,
(sensors) Jennifer Gabrys, Erich Hörl,
Scott Knowles, Arno Rosemarin,
Birgit Schneider
Everything-Everything-Everything
Oliver Sann, Mushon Zer-Aviv
Evolution (→ Co-evolution)
Mark Hansen, Erich Hörl
Excrement (→ Phosphor, Waste)
Scott Knowles

F
Fertilisers Lino Camprubí,
Arno Rosemarin
Finance (→ Trading, Speed)
Peter Haff, (markets) Donald MacKenzie
Flower (→ Marigold) S. Løchlann Jain
Food Lino Camprubí, Peter Haff,
Mark Hansen, Erich Hörl,
Scott Knowles, Arno Rosemarin
Fossil (→ Artefact, Entropy)
Jennifer Gabrys, S. Løchlann Jain
Fossil fuels (→ Death, Energy)
Arno Rosemarin
Funding S. Løchlann Jain

G
Geography Donald MacKenzie
Geology Jennifer Gabrys, Peter Haff,
Scott Knowles
Germany (→ Bells, Kanzler, the)
Peter Haff, Bronislaw Szerszynski
Gongs (→ Bells) Bronislaw Szerszynski
Governance Peter Haff, Arno
Rosemarin

H
Haff, Peter Jennifer Gabrys,
Peter Haff, Mark Hansen, Erich Hörl,
Scott Knowles, Bronislaw Szerszynski,
Mushon Zer-Aviv

Hansen, Mark Mark Hansen, Erich Hörl
Health Scott Knowles, Donald MacKenzie, Oliver Sann
Heidegger, Martin Bronislaw Szerszynski
History Lino Camprubí, Erich Hörl, Scott Knowles, Bronislaw Szerszynski, Masahiro, Terada
Human Being (→ Anthropocene, Anthropocenic Illusion) Jennifer Gabrys, Peter Haff, Mark Hansen, Bronislaw Szerszynski, Donald MacKenzie, Oliver Sann, Lucy Suchman, Masahiro Terada
Human Exceptionalism (→ Anthropocenic Illusion) Lucy Suchman, Erich Hörl
Humanist Mushon Zer-Aviv
Humanity Lino Camprubí, Peter Haff, Masahiro Terada

I
Illusion (→ Anthropocenic Illusion) Erich Hörl
Immaterialisation Erich Hörl, (invisible realm) Scott Knowles
Individual Oliver Sann, Bronislaw Szerszynski, Mushon Zer-Aviv
Industrial Erich Hörl, Scott Knowles, Oliver Sann, (military) Lucy Suchman
Interconnectedness (→ Abstract, Complexity, Everything-Everything-Everything) Jennifer Gabrys, Erich Hörl, Scott Knowles, Donald MacKenzie
Internet Peter Haff, S. Løchlann Jain, Donald MacKenzie, Birgit Schneider
Information Jennifer Gabrys, Lucy Suchman
Infrastructure (→ City) Erich Hörl, (health) Scott Knowles, Birgit Schneider, Lucy Suchman
Interface Mark Hansen, Scott Knowles, Mushon Zer-Aviv

K
Kelly, Kevin Mushon Zer-Aviv
Kanzler, the Oliver Sann

L
Landscape Jennifer Gabrys, Birgit Schneider, Masahiro Terada
Latour, Bruno Mark Hansen, Masahiro Terada
Logic (Cybernetics) Jennifer Gabrys, Bronislaw Szerszynski, Mushon Zer-Aviv

M
Machine (→ Simondon, Gilbert) Erich Hörl, Scott Knowles, Oliver Sann, Lucy Suchman, Mushon Zer-Aviv
Marigold (→ Flower) S. Løchlann Jain
McLuhan, Marshall Jennifer Gabrys
Matrix (→ System) Erich Hörl, Birgit Schneider
Media Mark Hansen, Erich Hörl, Birgit Schneider, Bronislaw Szerszynski, Mushon Zer-Aviv
Memory S. Løchlann Jain
Microphone (→ Recorder) Mark Hansen
Milk, Glass of (→ Phosphorus) Arno Rosemarin
Military (→ Industrial, Violence) (operations) Peter Haff, (technology) Lucy Suchman
Mobility Donald MacKenzie
Monsanto Scott Knowles

Morocco Lino Camprubí
Moscovici, Serge Erich Hörl
Multiplicity (→ Complexity)
Jennifer Gabrys, Lucy Suchman

N
Nature Lino Camprubí, Peter Haff, Erich Hörl, Arno Rosemarin, Lucy Suchman, Masahiro Terada
Neolithic (→ Paleolithicum)
Oliver Sann
Network Erich Hörl, Scott Knowles, (production) Donald MacKenzie, Birgit Schneider, Lucy Suchman, Mushon Zer-Aviv
Nicholas, Max Lino Camprubí
Non-coherence Lucy Suchman

O
Ontology Lino Camprubí, Mark Hansen, Lucy Suchman
Organisation Peter Haff, Bronislaw Szerszynski
Outside Lino Camprubí, Peter Haff, Erich Hörl, Bronislaw Szerszynski, Mushon Zer-Aviv
Outer Space Jennifer Gabrys

P
Paleolithicum (→ Neolithic)
Erich Hörl
Paper S. Løchlann Jain, Arno Rosemarin
Phone Lino Camprubí, Peter Haff, Mark Hansen, Erich Hörl, Scott Knowles, Donald MacKenzie, Oliver Sann
Phosphorus (→ Phosphor, Phosphate)
Lino Camprubí, Scott Knowles, Arno Rosemarin
Plastic Scott Knowles
Policy (→ Governance, Ecology)
Scott Knowles, Arno Rosemarin
Pollution (→ Waste) (3D printing)
S. Løchlann Jain, Scott Knowles
Post-human Erich Hörl
Prigogine, Ilya Bronislaw Szerszynski
Privacy Mushon Zer-Aviv
Process Lino Camprubí, Jennifer Gabrys, Peter Haff, Erich Hörl, Scott Knowles, Bronislaw Szerszynski, Masahiro Terada, Mushon Zer-Aviv
Production Lino Camprubí, Erich Hörl, Scott Knowles, (network) Donald MacKenzie, Lucy Suchman
Provocative Scott Knowles, Masahiro Terada

R
Radiation Donald MacKenzie, Arno Rosemarin
Reality Lino Camprubí, Scott Knowles, Mushon Zer-Aviv
Recorder (→ Microphone) Peter Haff, S. Løchlann Jain, Oliver Sann
Refridgerator (→ Food) Mark Hansen, Arno Rosemarin
Remote Control (→ Control)
Lucy Suchman
Renn, Jürgen Peter Haff

S
Satellite Lino Camprubí, Jennifer Gabrys, Erich Hörl, Scott Knowles
Shoe Jennifer Gabrys
Shirt (→ Clothes, Textiles)
S. Løchlann Jain, Scott Knowles
Simondon, Gilbert (→ Control, Machines) Jennifer Gabrys, Erich Hörl
Skull Lucy Suchman

Society Lino Camprubí, Peter Haff, Erich Hörl, Scott Knowles, Oliver Sann, Mushon Zer-Aviv
Speed Donald MacKenzie
Standard Scott Knowles, Mushon Zer-Aviv
System Lino Camprubí, Jennifer Gabrys, Peter Haff, Mark Hansen, Erich Hörl, S. Løchlann Jain, Scott Knowles, Donald MacKenzie, Arno Rosemarin, Birgit Schneider, Oliver Sann, Lucy Suchman, Bronislaw Szerszynski, Mushon Zer-Aviv

T
Technocracy Lino Camprubí
Techno-determinism Scott Knowles, Mushon Zer-Aviv
Textiles (→ Clothes, Shirt) Birgit Schneider
Thinking Erich Hörl, (non-technical) Bronislaw Szerszynski
Time Donald MacKenzie, Bronislaw Szerszynski, Masahiro Terada
Tool Jennifer Gabrys, Mark Hansen, Erich Hörl, Scott Knowles, Oliver Sann
Tornado Peter Haff, Bronislaw Szerszynski
Trading (high-frequency) Donald MacKenzie
Transport (→ Mobility) Peter Haff, Erich Hörl, Donald MacKenzie, Birgit Schneider
Trauma S. Løchlann Jain, Arno Rosemarin
Travel Donald MacKenzie

U
"Us", the (→ We-ness, Humanity) Masahiro Terada

W
Waste Lino Camprubí, (electronic) Jennifer Gabrys, (3D printing) S. Løchlann Jain, (excrement) Scott Knowles
Water Peter Haff, Scott Knowles, Birgit Schneider, Bronislaw Szerszynski
Wave S. Løchlann Jain, Mark Hansen, Erich Hörl, Birgit Schneider
We-ness (who is we?) (→ You-ness, Humanity, Society, Us) Lino Camprubí, S. Løchlann Jain
Whitehead, Alfred North Jennifer Gabrys, Erich Hörl

Y
You-ness (→ We-ness, Individual, Society) S. Løchlann Jain

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