Sonic Acts Academy

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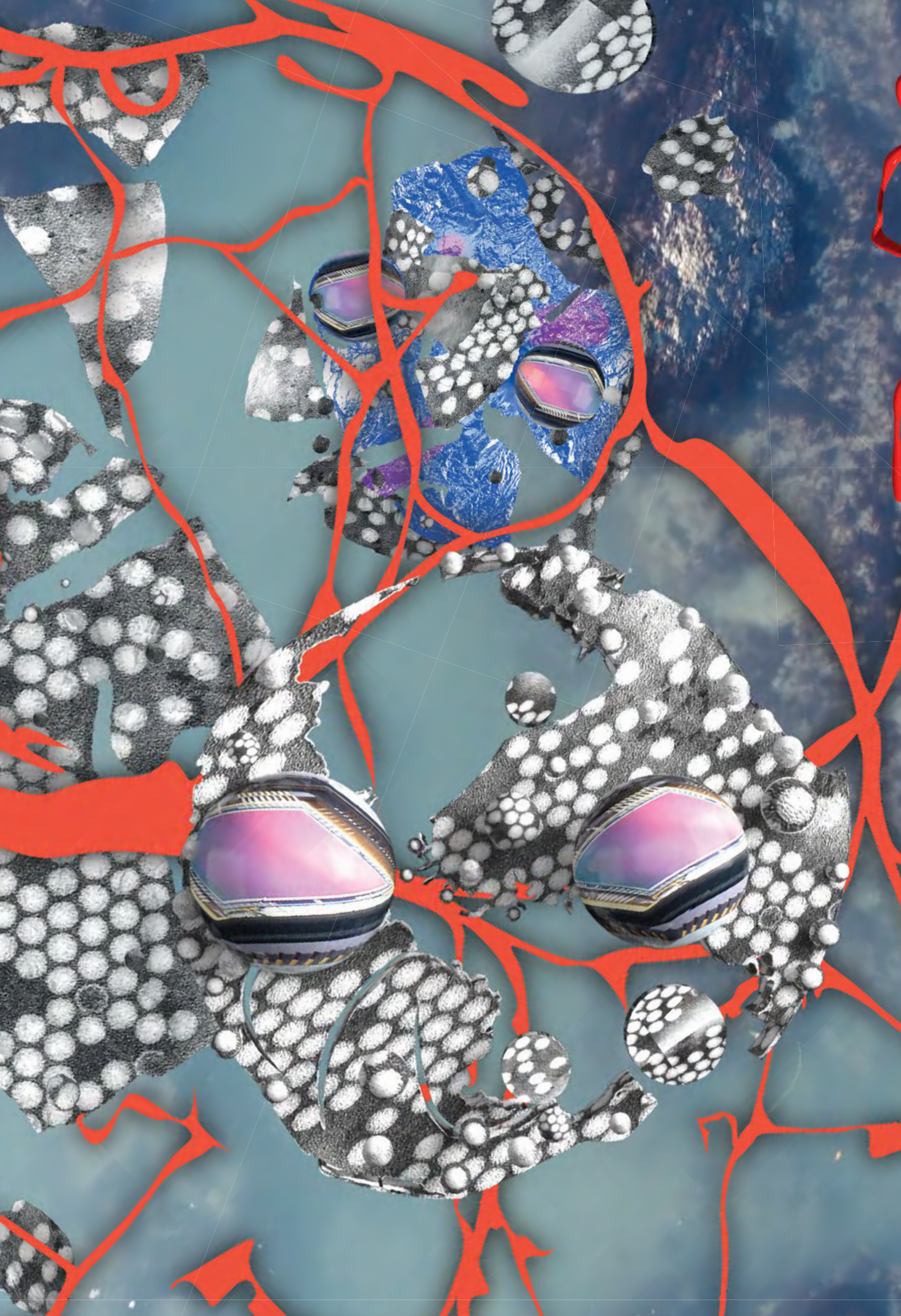
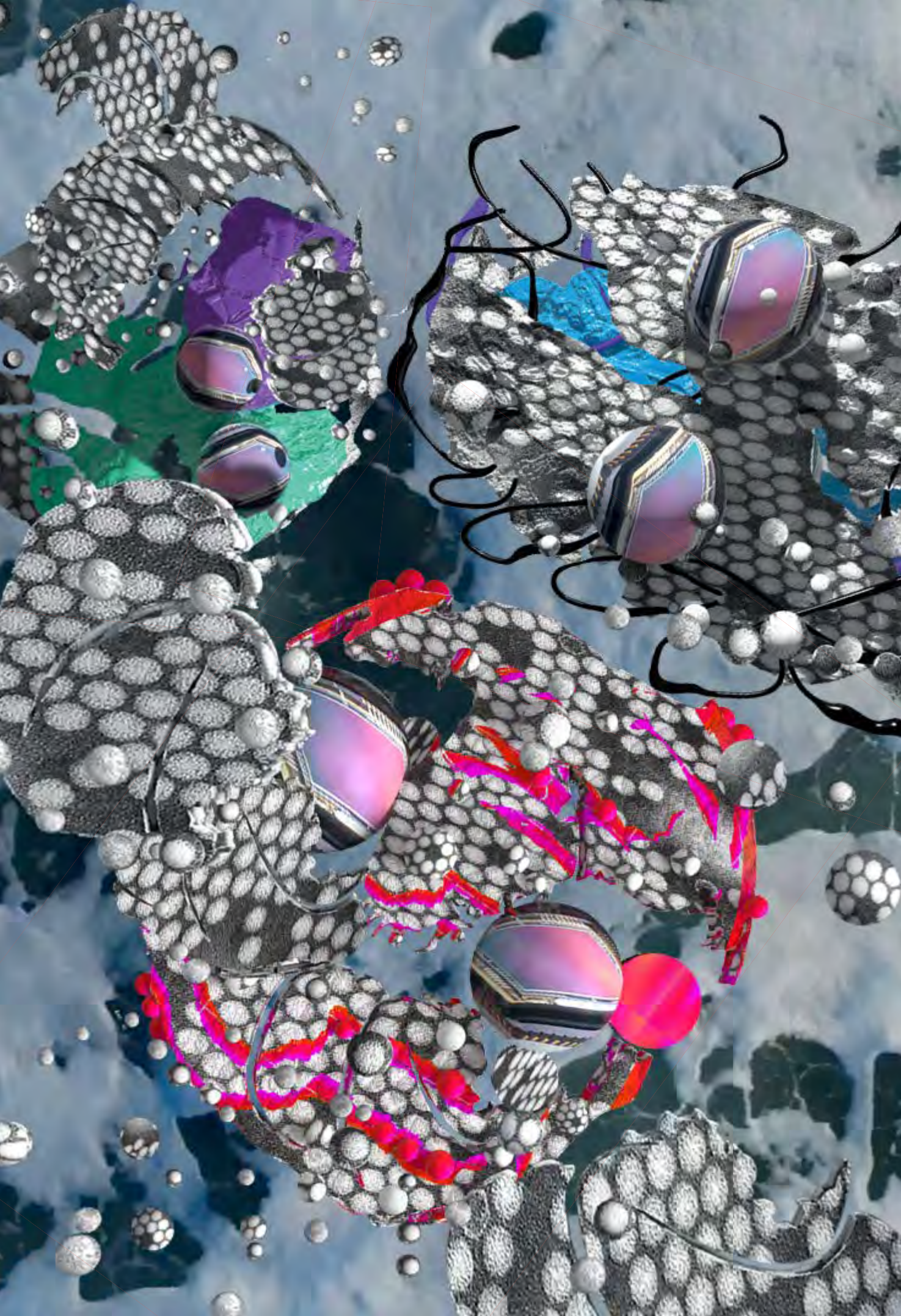
2020





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Magical Thinking: Towards a Future Worth Living

Sonic Acts Academy 2020 features a visual of a 'plastiglomerate',[1] rendered in a wonderfully uncanny design by The Rodina, which also surrounds this introduction to the festival magazine. It is a type of rock that contains a mixture of natural elements, grains, and debris, held together by molten plastic. Plastic is, along with traces of nuclear energy, or 'artificial radionuclides', spread worldwide by the thermonuclear bomb tests from the early 1950s,[2] one of the most evident markers of the Anthropocene – a proposed new geological epoch, which replaces the Holocene, emerging from the 'Great Acceleration' from the mid-twentieth century onwards.[3] The Anthropocene is a term widely used in popular discussions, natural sciences, and environmental humanities and is characterised by the catastrophic human impact on the planet.[4] Together with the face of a plastic and toxic Earth staring back at us, moulded as the future fossil of the Anthropocene, the festival visual also shows a graphic of climate model projections – a simple line that represents the horrifying future heating predictions for both 2°C and 5°C. Appropriately, this line cuts through or crosses out Sonic

Acts, warning us about our future operations. This edition of the festival, like several others before it, engages in thinking about the future, underlining both the dystopian festival visual and the galvanising tone of our Academy conference.

The *Magical Thinking: Towards a Future Worth Living* conference gathers theorists and artists, whose contributions also feature in this magazine, from Terike Haapoja, T. J. Demos, Nabil Ahmed, Anja Kanngieser, Dehlia Hannah, and Nadim Samman to DESIGN EARTH, Lukáš Likavčan, Daniel Mann, Helen Pritchard, Jara Rocha, Femke Snelting, Laura Benítez Valero and more. Magical thinking is the belief that one's thoughts, actions, or desires can influence the external world. It is related to superstition and is often found in rituals or wellness philosophies. The idea that optimistic thoughts can magically create a positive world is a fallacy usually monetised by the marketing machinations and branding bombast of the lifestyle industries. At this year's conference, we propose the concept of 'magical thinking' as a provocation. In current dystopian scenarios – from the environment to democracy – of future life on Earth, imagining a future worth living could reduce the crippling anxiety that paralyses action and create a sensitivity or openness to a more inclusive way of thinking. The question that needs answering in the global arena is: what *is* a future worth living (and for whom) and what tactics can get us there? How do we get from the world of climate emergency and catastrophic populism, fuelled by the machinery of gendered and racial extractive capitalism, to a world of social and ecological justice and multispecies equality? The theorists and artists assembled at the Academy conference and in this magazine explore a range of topics, from ecocide and the geopolitics of climate emergency to interspecies solidarity and more-than-human perspectives.

Although the discursive programme usually anchors the festival to a theme, it is certainly not the only way of navigating the messy world of climate crisis and oppressive capitalism. Three evenings of live cinema, experimental concerts, and progressive club nights should guarantee a near 24/7 live, immersive, and charged experience, which aims to create a communal spirit and collective joy we so urgently need nowadays. The programmes, such as *Sounding Provocations* at the Stedelijk Museum Amsterdam, *Spin Cycles* at OT301, *Expanded Experience* and *Progress Bar* at Paradiso, *Transmissions & Interventions: Voice Body Chance* at De Brakke Grond, feature a wide variety of artistic expressions and interventions, including audiovisual performances, multichannel speaker compositions, sculptural, kinaesthetic and AV installations, radio experiments, DJ sets, concerts of experimental electronics and brutal rhythms, sound walks, and much more. Some of the artists gathered at the festival offer their contributions in the following pages too, in a format that extends their AV practices onto the two-dimensional magazine grid, including Maika Garnica, Sadaf H Nava, Marja Ahti, Kali Malone, Amie Galbraith, Hugo Esquinca, MAEKUR, DeForrest Brown, Jr. and Ting Ding, and Lag OS.

Motivated by the strategies of visibility and mobilisation that art enables, Sonic Acts Academy wants to open critical discussions and introduce ecstatic experiences that lead the way to a future worth living. And hopefully, the 'magical thinking' will do its magic and foster an optimistic atmosphere and communal spirit that will generate at least some form of necessary action.

1
The term 'plastiglomerate' was coined by Patricia L. Corcoran, Charles J. Moore, and Kelly Jazvac in 'An anthropogenic marker horizon in the future rock record', in *GSA Today*, vol. 24, no. 6 (2014), pp. 4–8. This term was brought to our attention by Heather Davis during her lecture at the first Sonic Acts Academy in 2016.

2
The Subcommission on Quaternary Stratigraphy (SQS): Working Group on the 'Anthropocene' (AWG). Results of a binding vote by the AWG released 21 May 2019. Available online.

3
Some theorists have proposed other possible beginnings of the Anthropocene, based on boundary markers, or golden spikes, the most prominent being 'the Columbian Exchange' and 'Orbis Hypothesis' (1610) – the colonisation of Americas – and the Industrial Revolution (ca 1800), or the start of industrial capitalism.

4
'To be included in the "we" of the Anthropocene is to be silenced by a claim to universalism that fails to notice its subjugations.' Kathryn Yusoff, *A Billion Black Anthropocenes or None* (University of Minnesota Press, 2019).

Ecotopia – Unlearning Animality

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First published in *Shifter: Learning and Unlearning*, (eds.) Avi Alpert, Sreshta Rit Premnath, no. 24 (New York, 2019).

Terike Haapoja will present a lecture at the Sonic Acts Academy conference on 22 February.

Terike Haapoja

Terike Haapoja, *Untitled* (from the series *Habeas Corpus*), 2019.
Photo courtesy of the artist.

The danger of utopianism is that it projects an idealised future that is by necessity a totality, an idealised version of today's world with no tolerance for imperfection. But the future is always an opening rather than a fixed landscape. It is the opening that gives us the world as something other than a totality – a becoming. A utopia, then, is a vehicle for leaning towards that opening by letting it pull us forward while unexpected terrains – both hostile and nourishing – are revealed on the way.

In the wake of the environmental crisis – or rather, in the mainstream acknowledgement of a crisis that has been in the making for a good 500 years[1] – utopian thinking has become urgently preoccupied with our relationship with nature. On the one hand, the future of the natural world as such is at stake, and we must address the question of how to save the planet where we can continue our utopian dreams.[2] On the other hand, the question of *ecotopia* concerns the fact that in order to achieve the first, we must radically alter our relationship with and understanding of nature as something separate from human existence. Thus, the most fundamental thing to unlearn is the idea of human exceptionalism that makes it possible to identify a 'nonhuman' field of life as something to be freely exploited.

The extractive use of natural resources and the exploitation of the labour and bodies of both humans and nonhumans is widely critiqued in different fields of leftist political ecology. Yet, the question of the animal tends to be missing from these conversations. By the question of the animal I don't mean the ecological devastation that animal agriculture generates or the mass extinction of species due to climate change, both of which are addressed in conversations about developing more balanced economies that would be in line with the limits of earth's ecosystems. Instead, I refer to 'the animal' as the conceptual framework that renders beings of all species killable. In resonance with the work of Syl Ko, Che Gossett, and others, I argue that the deconstruction of the concept of 'the animal' as 'the Other' from the perspective of white supremacist humanism is essential in order to dismantle racial petrocapitalism and other forms of systemic violence against both human and nonhuman lives.

Conversations about animal rights and human rights tend to happen in different circles of activism. The relationship between these circles is often non-existent, if not hostile. The clash between animal rights and social justice movements can be traced to their conceptualisation of the boundary between humans and animals. Animal rights advocates often approach animal liberation as the next phase in what can be described as rings of emancipation that started with the abolition of slavery, followed by legal recognition of the rights of women, children, disabled and LGBTQ people. Nonhuman animals, in this framework, are seen as the next in line to enter the sphere of rights. The concept of speciesism, made popular by philosopher Peter Singer, is intended as a way to point to a structural similarity between the oppression of nonhuman animals and humans.[3] According to the notion of speciesism, a random signifier (in this case, biological species) has been used to justify the oppression of a group. What this approach misses, of course, is that freedom has not yet arrived for many, if not most, people who are still fighting for basic rights. Furthermore, from the humanist perspective, it is the very human-animal boundary that is the safeguard against dehumanisation; in other words, against being 'treated like an animal'. Animal rights would thus seem to threaten the very grounds on which social justice struggles stand, while social justice struggles, from the animal rights point of view, resort to an exclusive human supremacy, blind to the suffering of nonhuman life.

The animal rights advocates' common argument for legal rights of nonhuman animals is to point to the mounting evidence of the cognitive similarities between humans and other beings. Their argument is that the categorical inferiority of all nonhuman animals has no empirical grounding in scientific data, which shows that the abilities that are traditionally considered to underwrite human exceptionalism can in fact be found in other lifeforms. This claim resonates with the ways that human rights campaigns prove that, despite phenotypical or cultural differences, 'we are all human' and thus deserve equal treatment. If the projected categorical inferiority of nonhuman animals or racialised people has no scientific basis, then why do animal oppression and racism prevail? One reason is that, like race, what we refer to as human and animal are not scientific categories of biological types, but moral categories. Thus, using essentialist similarities or differences has little effect on oppression. Approaching the question of animal as a question of *animalisation of both humans and nonhumans* provides a more productive framework for both animal ethics and social justice.

Posthumanist scholarship has long pointed out that in Western thought, the notion of *human* is a construct that has been constituted through rejecting what it is not. A core part of this project has been the human need to externalise and reject its own animality and to project its undesired characteristics onto those rendered 'other' to the realm of humanity. Since the self-ascribed norm of humanity proper has, throughout Western history, been the white, straight, upper-class man, anyone who diverts from this norm has been considered less human and thus already in danger of being 'treated like an animal'. Giorgio Agamben calls this perpetual operation the 'anthropological machine' at the heart of Western thought. This machine ceaselessly tries to separate humanity from the underlying animal body, with lethal consequences.[4] Cary Wolfe, in turn, describes the biopolitical field as a 'species grid' of humanised humans, animalised humans, humanised animals and animalised animals rather than a neat two-category field of humans/animals that is marked by a species difference.[5]

All these descriptions point to the fact that moral categories are created not by observing differences but by performative *naming*. As Cora Diamond writes, naming someone a human *constitutes* them as someone not killable, and vice versa: already naming someone an animal *constitutes* them as someone who can be killed.[6] Observable similarities and differences are used to reinforce these labels, not to create them. The binary arrangement of 'humans' as those who have moral worth as opposed to 'animals' who lack moral worth is thus a condition of possibility for a matrix that makes possible other forms of oppression such as racism, sexism or xenophobia.

While posthumanist and biopolitical scholarship sees the human-animal binary as a human condition that is integral to the Western and westernised worldview since antiquity, some contemporary scholars have advanced the conversation by pointing to the particular way in which race and animality are entangled in the modern Western imaginary. In *Aphroism,* Syl Ko argues that the birth of race in the European imaginary in the sixteenth century also marked a radical shift in the logic governing human-animal relations.[7] The sociologist Ramón Grosfoguel notes that encountering indigenous people of the Americas opened up

a space for a racial logic in the minds of Spanish colonists, who thought of indigenous people as animal-like humans.[8] Colonialism thus gave birth to the emergence of racial hierarchies within the figure of the human in the Western imaginary. This was further cemented in the course of the transatlantic slave trade, during which blackness was marked as a signifier of 'subhumanity' while whiteness became the signifier of 'human proper'. Syl Ko argues that this new binary of 'human proper' and 'subhuman' transfigured or even replaced the historical human-animal binary. The constitutive Other to the Western notion of human was not anymore the literal nonhuman animal, but the *racialised human other*.[9] Ko writes about how the human-animal boundary was thus redrawn along racial lines. In the racial imagination, not only are 'subhumans' animalised through their assumed proximity to the animal, but nonhuman animals are also racialised through their assumed proximity to the 'subhuman'. Racialisation and animalisation merge into two instances of the same figure: the binary opposite of the colonial, white supremacist, patriarchal, and classist figure of a 'human'.

It follows not only that the human-animal boundary is what makes it possible to throw anyone outside the protections of humanity and 'treat them like an animal' (as is widely noted in posthumanist discourses), but also that it will be impossible to dismantle racism or coloniality without also dismantling the logic of animality and vice versa. As Maneesha Deckha notes, resorting to equal human rights is not possible since the notion of humanity is already constituted by excluding racialised others.[10] Furthermore, dismantling the toxic notion of humanity, by necessity, requires dismantling the notion of animal as foundational to the hierarchy itself. As the colonial logic of animalisation encompasses nonhuman animals in its framework, decolonisation must lead to refiguring our concrete relationships and moral attitudes towards nonhuman animals as well.

In this context, Syl Ko builds a powerful argument for what she calls Black Veganism as a form of resistance against white supremacy and its logic of animalisation. For Ko, veganism – yet another form of environmentalism that is typically dominated by white perspectives – takes anti-racism as its starting point to provide a place of solidarity and alliance with all those oppressed by toxic humanism. Ko writes that 'because racism is simultaneously *anti*-black and *anti*-animal', an animal ethic 'is internal to the project of black liberation'.[11] Black Veganism, then, is not about being black and vegan, but a *way* of being vegan, and of reformulating how we understand oppressions and injustices ordinarily thought to affect only human beings. While Black Veganism is available for anyone who wants to commit to this form of resistance, people who have been subjected to racism have particular knowledge about the workings of animalisation. Internalised racism manifests as what Ko describes as a feeling of an ontological lack (of humanness). This embodied knowledge of the entanglement of blackness and animalisation can be a way of apprehending 'the animal' as *a vast social body* and turned into a tool for resistance and ethical revaluation.[12] To reject the white supremacist notion of human, Ko suggests, means reclaiming blackness, but also reclaiming the signification of the concept of animality. Instead of putting already marginalised groups in competition with each other, to reconceptualise animal oppression and oppression of humans through the notion of race allows these movements to unite their fronts. This is not only a vehicle for human emancipation. Ko writes how the process of reclaiming the concept of the animal has direct implications 'for those who suffer most from the category "the animal" – nonhuman animals.' She continues: 'Their inferiority is also materially located in their bodies, which are generally marked as consumption items, objects to be used as we see fit, and so forth.'[13] Thus, foregrounding the entanglement of racialisation and animalisation allows us to keep the suffering and oppression of nonhuman animals in focus (something that is easily missed in ecological discourses that focus on environmental impact) while not falling into the 'colour-blind' animal rights' advocacy that completely bypasses notions of racial and social justice.

Taking the question seriously concerning the animal carries important potential for political ecology. The rise of capitalism as deeply entangled with transatlantic slave trade was made possible by the construct of race as a justification for mass scale abduction, intergenerational violence, and genocide. This violence still continues today in the form of racialised climate violence, forced displacement and global economic inequality. If race, in turn, is inseparable from animality, capitalism without animality is unthinkable. What this means is that fighting capitalism without fighting the core logic of animalisation will always remain a futile gesture. In other words, animal liberation, as well as anti-racism, should be at the core of all anti-capitalist resistance. Che Gossett writes:

'Abolition is always already about ecology and we continue to need and demand an abolitionist ecology. This is true especially in the face of accelerated climate change which actually ties directly into the prison industrial complex and in the face of racial capitalism that forecloses all forms of life through caging and killing and rendering human and nonhuman life forms as surplus and disposable.'[14]

The task of *ecotopia*, then, is to think of a world beyond animality: beyond an order that organises beings into those protected and those killable by using animality and humanity as its divider. This is a world without a Difference (as Diamond puts it) between the human and the nonhuman, but not a world without *differences*.[15] Letting go of a binary logic frees the heterogeneousness of life to flourish and form kinships and alliances across species divides. This is a world that is, by necessity, without capitalism, because animality is the conceptual bedrock that makes capitalism possible (crude oil is, after all, made of the bodies of ancient creatures – while the energy generated by oil has literally replaced the labour of enslaved, animalised people). The task, to conclude, in Syl Ko's words, is to 'build up a different "new world"', one that is not defined in terms of dichotomies or hierarchies or emotional death – but centred on love: one in which we accept ambiguity and difference, grounded in an expansive, limitless 'we'.[16]

Terike Haapoja, *Untitled* (from the series *Habeas Corpus*), 2019. Photo courtesy of the artist.

1
Many scholars and activists have pointed out that the roots of the climate crises are much further back in history than what is commonly acknowledged. Heather Davis and Zoe Todd argue that placing the start date of the era of the Anthropocene to 1492 would make it possible to perceive the entanglement of racial capitalism and colonialism as the root of current climate destruction (Heather Davis, Zoe Todd, 'On the Importance of a Date, or Decolonizing the Anthropocene', in *ACME: An International Journal for Critical Geographies*, vol. 4, no. 16, 2017, pp. 761–80). T. J. Demos argues, similarly, that to view the crises in universalist, geological terms overlooks the fact that the driving forces behind what is called the Anthropocene are in fact racial capitalism and corporate extractivism, ruled by a small minority of 'the anthropos' (T. J. Demos, *Against the Anthropocene – Visual Culture and the Environment Today*, Berlin: Sternberg Press, 2017). Many different variations of the term seek to capture these aspects, such as Capitalocene and Plantationocene (Donna Haraway) or White Supremacy Scene (Nicholas Mirzoeff).

2
See, for example, Center for Creative Ecologies' research project 'Beyond the End of the World', University of Oregon's Center for Environmental Futures or Mustarinda Residency.

3
The concept of speciesism was introduced by Richard Ryder in 1970 and has been popularised by philosopher Peter Singer in *Animal Liberation – A New Ethics for Our Treatment of Animals* (1975).

4
Giorgio Agamben, *The Open – Man and Animal*, Stanford: Stanford University Press, 2004.

5
Cary Wolfe, *Animal Rites: American Culture, the Discourse of Species, and Posthumanist Theory*, London/Chicago: University of Chicago Press, 2003, p. 101.

6
Cora Diamond, 'Eating Meat, Eating People', in *Philosophy*, vol. 53, no. 206 (1978), pp. 465–79.

7
Aph Ko, Syl Ko, *Aphro-ism – Essays on Pop Culture, Feminism, and Black Veganism from Two Sisters*, Brooklyn: Lantern Books, 2017, pp. 23–25, 45–46.

8
Ramón Grosfoguel, 'The Structure of Knowledge in Westernized Universities – Epistemic Racism/Sexism and the Four Genocides/Epistemicides of the Long 16th Century', in *Human Architecture: Journal of the Sociology of Self-Knowledge*, vol. 11, no. 1 (2013), pp. 73–90.

9
Palang Ly, 'An Interview with Syl Ko – Activism in Terms of an Epistemological Revolution', in *Tierautonomie*, vol. 6, no. 1 (2019).

10
Maneesha Deckha, 'The Subhuman as a Cultural Agent of Violence', in *Journal for Critical Animal Studies*, vol. 8, no. 3 (2010), pp. 28–51.

11
Ko, 2017, p. 121.

12
Ibid., p. 124.

13
Ibid., p. 69.

14
Ray Filar, 'Cruising in the End Times: An Interview with Che Gossett', Verso blog, 18 December 2016.

15
Diamond, 1978, pp. 465–79.

16
Ko, 2017, p. 75.

Ecology as Intrasectionality

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This essay was first published in *Panorama: Journal of the Association of Historians of American Art*, vol. 5, no. 1 (Spring 2019).

T. J. Demos will give a lecture at the opening of the Sonic Acts Academy conference on 22 February.

T. J. Demos

Climate change protesters outside the Australian embassy in London, where Extinction Rebellion London group staged a demonstration against the Australian government's response to the wildfires on 10 January 2020. Photos by Gareth Morris.

A surge of recent art has engaged ecology in newly complex ways, including by confronting environmental injustice and social violence in aesthetically provocative forms. Consider the visual culture abetting pipeline blockades and Indigenous sovereignty struggles, including at Standing Rock; the creative social engagements motoring the recent campaigns to remove arms and drug dealers and petro-capitalist climate deniers from the governing bodies of cultural institutions; and the social media feeds and direct actions driving recent Extinction Rebellion mobilisations.[1] Building off the insights of political ecology, my work addresses such practices by approaching ecology as a mode of intersectionality, insisting on the inseparability between environmental matters of concern and sociopolitical and economic frameworks of injustice. Intersectionality – emerging from a long history of African American activism and antiracist, antisexist politics, more recently codified in the Black feminist legal theory of Kimberlé Crenshaw and underscored within multiple struggles for decolonisation[2] – refuses to divide overlapping systems of oppression (such as those tied to race, class, gender, sexuality, and ability) and thereby challenges the essentialisation of one or another term in isolation.

Ecology, in my view, functions similarly as a site of indissoluble relationality that highlights, and indeed is constituted by, interaction (or even 'intra-action', in the sense posited by Karen Barad, whose theorisation within the field of feminist science studies rejects the separateness and purity of originary categories, arguing instead for a political ontology of being-in-relation[3]). Just as carbon pollution materialises differential sociopolitical impacts – and there is indeed no way to account for toxicity outside of its disparate consequences – so too does economic inequality produce unequal vulnerabilities

'No Spiritual Surrender' with Floris White Bull (Hunkpapa Lakota / Cochiti Pueblo), in the historical wet plate collodion process of silver on glass. Floris is an advocate for her people and was instrumental in the Standing Rock protests against the Dakota Access Pipeline. Photo by Shane Balkowitsch, 2018, Wikipedia, CC BY-SA 4.0.

Demilitarize the Police, Black Lives Matter. Photo by Johnny Silvercloud, 2015, Flickr, CC BY-SA 2.0.

to environmental injustices. With the siloing of issues (for instance, with the tendency of eco-art to isolate and celebrate the nonhuman realm in an effort to escape anthropocentrism; or the exclusive focus on intra-human oppression in social justice art), we risk epistemic violence, which can translate into the extremes of privilege and exclusion in white environmentalism, green capitalism, and climate change denialism. Instead, in my view, the most compelling cultural work is that which explores and develops modes of ecology-as-intersectionality, wherein political ecology links with Indigenous and/or queer rights activism and/or movements against police brutality, media censorship, and capitalist extraction. As such, I find it urgent to foreground art at the hinge of social justice and expanded environmentalism.

In this vein, it's crucial to comprehend 'naturecultures' (a term grammatically recognising the refusal of binaries) as sites of complex and indivisible relationalities between and within the slippery category of the non/human, where humanity itself operates according to regimes of selective inclusion and exclusion, and where practices of antiracism, social justice, and antisexism co-constitute and intra-act upon and with each other in response to multiple intersecting oppressions. These also merge with more-than-human realms, environmental materialities, and life-forms that are also impacted by oppression and violence in ways that are integral and cannot be separated or pulled apart without risks of essentialism, idealism or fetishism (as again occurs in some forms of eco-aesthetics that focus solely on the nonhuman environmental realm, or conversely in social justice aesthetics that avoids the ecological as if it was a privileged domain of concern, thereby inadvertently reinforcing single-issue analysis). In our emergency times of disastrous environmental transformation, it is urgent to bridge aesthetics and politics, expanding consideration of these entanglements in ways that challenge white supremacy, the militarisation of everyday life, creeping fascism, apocalyptic populism, as well as mass extinction, fast and slow environmental violence, and extractive capital. These are the central ingredients of socioecological climates that differentially impact being and define the uneven exposure to toxicity, violence, and death. That means tracing the current transformations of art, too, especially where it escapes the clutches of market-driven institutionalised forms and the mere representation of ecologies, extending into and generating new forms of life, emergent postcarbon futures, and socioecological justice.

1
For examples, see my recent books: *Decolonizing Nature: Contemporary Art and the Politics of Ecology* (Berlin: Sternberg Press, 2016), and *Against the Anthropocene: Visual Culture and Environment Today* (Berlin: Sternberg Press, 2017).

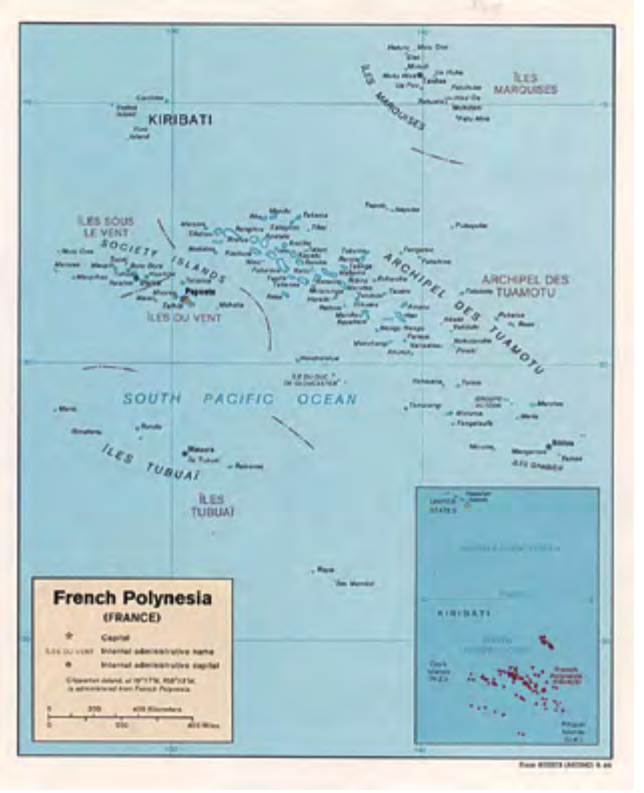
2
Kimberlé Crenshaw, 'Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics', in *University of Chicago Legal Forum*, no. 1 (1 January, 1989), pp. 139–67.

3
See, for instance, Karen Barad, 'Troubling Time/s and Ecologies of Nothingness: Re-turning, Re-membering, and Facing the Incalculable', in *New Formations*, vol. 92 (2018), pp. 56–86.

Listening to Ecocide in the Pacific

Nabil Ahmed and Anja Kanngieser led the *Sound Methods for Environmental Justice* workshop (19–20 February) and will present lectures at the Sonic Acts Academy conference on 22 February.

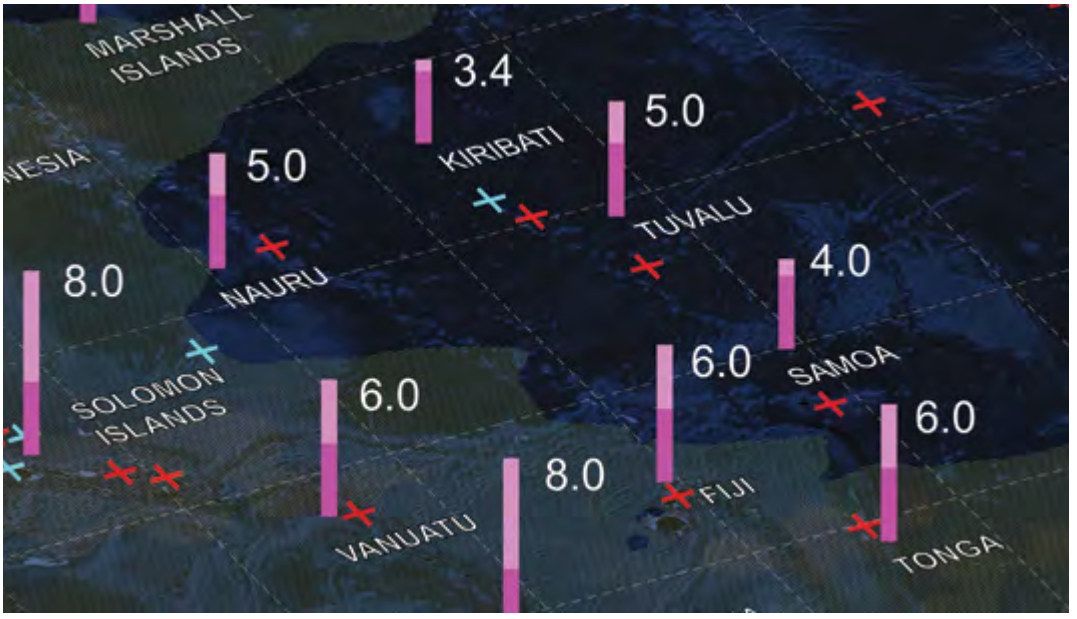
Nabil Ahmed, Anja Kanngieser



Global environmental change is one of the most urgent human rights challenges facing the world today. Islands offer a microcosmic view of these challenges across multiple scales. For Large Ocean States or so-called Small Island Developing States in the Pacific, the impacts of environmental crises, such as intensified droughts, cyclones, floods, and coastal erosion, converge with social, political and economic vulnerabilities tied to a colonial past and neo-colonial present.

In West Papua – the site of the longest-running self-determination struggle in the region – and French Polynesia, colonialism and resistance are ever-present. After Algeria's independence in 1962, the French state relocated its nuclear testing programme from the Sahara to the Pacific Ocean in French Polynesia, where it remains unaccountable for widespread radioactive contamination. As with nuclear weapons tests, the governments, communities, and people in the Pacific have not contributed to global warming. That responsibility lies with the largest state and corporate fossil fuel companies, which continue to release heat-trapping emissions into the atmosphere. Unlike nuclear weapons, where cold war realpolitik, regional and international treaties – in part championed by Pacific Island states, namely Samoa and the Marshall Islands and the region's wider civil society – led to a global test ban, no binding agreement is in place to reverse the climate emergency.

Distinctly twenty-first-century consequences of the climate emergency, such as supercharged storms that have battered the Pacific in Vanuatu and Fiji, require that we pay attention to longer chains of agency, between cause and effect, victims and perpetrators. One often-cited example from climate justice is how, for decades, big oil has been polluting for profit despite having scientific knowledge on climate change. More recently, as in the case of ExxonMobil, big oil has been funding climate change denial. This is what impunity looks like in the twenty-first century, where fossil fuel company executives and the elite of resource-rich countries not only continue to enrich themselves but are also exempt from any individual responsibility for actions that disproportionately impact millions of people in the Pacific and the so-called Global South. Impunity, namely the failure to bring perpetrators of violations to justice, is second in its offence to the victim only to the crime itself. In a warming world, impunity also points to crime through erasure, that of ecocide or crimes against the environment. Environmental destruction occurring in a globally networked manner across geographies is not recognised as an international crime. Criminalising ecocide, as for other serious crime, can act as a deterrent to potential perpetrators. It can also amplify and complement ongoing demands for climate justice in stark terms, in the language we have reserved to speak out against the most serious atrocities.



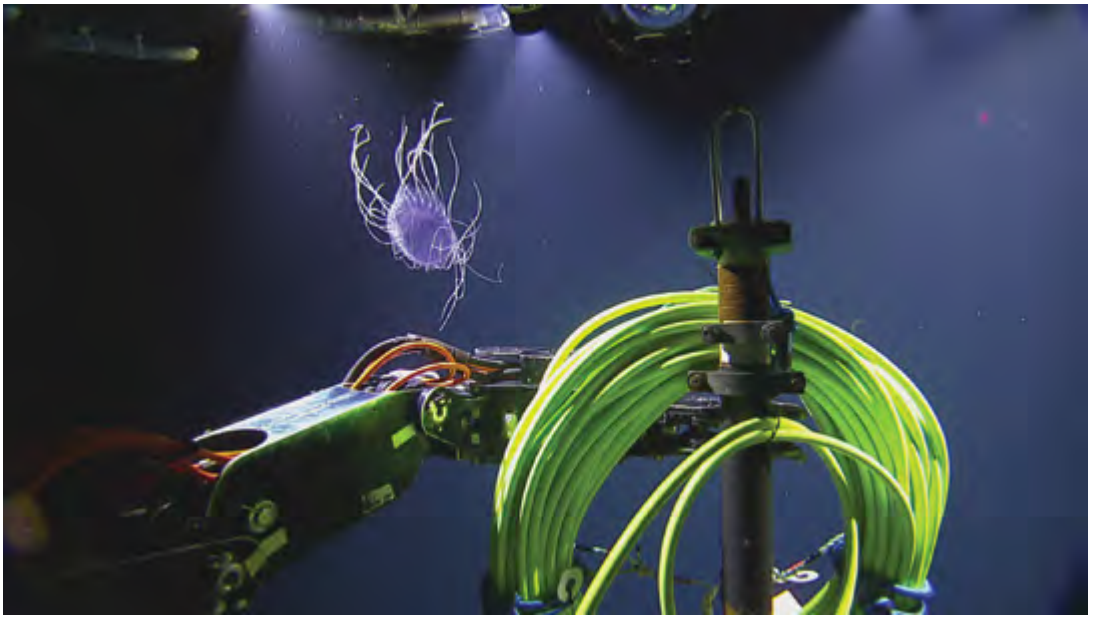
Climate ecocide, INTERPRT, production still, 2018. Image courtesy of the artist.

To name and define an offence as a crime, evidence must be gathered within a process of seeking justice. The consequences of environmental destruction, such as those occurring in the Pacific at a local scale and from the perspective of Indigenous communities, must be taken into account. Corporate criminal acts may occur far away from the places where their impacts are most felt, and over long periods. It is at these different scales, intensities, and needs of justice – first and foremost those demanded by impacted communities – that (international) criminal law, sound, spatial analysis, scientific evidence, community organising, investigative journalism, and still many other practices must be put to work together.

Sound can be deployed toward this gathering. Changes in environments, livelihoods, and cultures due to environmental destruction are evidenced in sound. Bioacoustics (the recordings of environments) can indicate where ecosystems are being degraded over time due to the impacts of development, mining, human inhabitation, and the changing of land use to industrial agriculture and plantations, by listening to how the quality, diversity, and composition of animal species and populations are affected. Sounds from the physical environment, the sounds of water, wind, tectonic movement, storms can also reflect long-range climate variations, land use, and anthropogenic disturbance.

Oral testimonies, the testimonies of Indigenous communities, are critical to documenting how environments and livelihoods are being transformed. In our experience, the changes communities are noticing on everyday registers, changes to their health, changes to marine life and animal behaviours, climate and weather, and growing seasons and yield, often contradict the reassurances made by employed scientists, corporations, and governments that development and industry are safe or pose little risk of harm. Scientific data sets cannot articulate the range and complexity of impacts, and they cannot express how one impact exacerbates another – how strip mining destroys vegetation, which leaves topsoil loose, which runs off into water wells and reef beds when it rains, which erodes more of the soil bed and exposes rock layers, which reflect sunlight and UV, and which intensifies experiences of heat to unbearable and uninhabitable levels. Even though scientific data identifies that temperature has only increased by one degree, people's experiences of crushing heat tell a different story. Soil run-off and sediment also impact on coral health, which impacts on fish populations, which diminishes livelihoods made from fisheries. The narrative told by data and research at a distance needs oral testimonies, the direct voices and words of affected communities, to ground them, to make sure they are accurate and represent lived experience.

There is, however, a gap between giving testimony and being listened to – a lack of movement into action. Whose voices are prioritised? Who is listened to and how? The ear of the law is designed to protect the law, and the law tendentially upholds the logics of racial capitalism. Environmental justice, as it is linked to environmental racism, has been argued since the 1970s showing intensified impacts of environmental destruction on economically poor Indigenous, Black and brown communities. However, some legal



Dinner plate jelly spotted during a descent to Main Endeavour Field. Photo © ONC/OET/ Nautilus Live, 2018. Photo courtesy of Ocean Networks Canada.

The Deep Sea Mining campaign collaborated with the Pacific Network on Globalisation (PANG) to create a banner for the UN conference on sustainable development, Rio+20, 2012. Photo © Joey Tau.

precedence for international environmental crime has been establishing over the past 70 years. More recently, civil litigation cases have been successfully won in the name of climate justice, such as the Urgenda Climate Case where the Dutch Supreme Court upheld its judgment holding its government accountable for not taking sufficient action to prevent the climate emergency. With ecocide, there exists a window of opportunity to repair the law and create a duty of care led by civil society and willing climate frontline states, such as Vanuatu. This needs to be able to recognise the impossibility of disentangling the ongoing legacies of colonisation and extractive capitalism from the current and future damages of social-environmental crisis. Sound practices that document these damages, that invite listening in a way that can hold the complexities of experiences and temporalities together, can contribute to these more robust and multifaceted approaches and understandings.

Cloud Walking

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An abridged excerpt from *A Year Without a Winter,* Dehlia Hannah (ed.), New York: Columbia Books on Architecture and the City & Columbia University Press, 2018.

Dehlia Hannah will give a lecture at the Sonic Acts Academy conference on 23 February.

Photo credit
Charles Stankievech, *LOVELAND*, 2009–2011. HD video still from installation at Musée d'art contemporain de Montréal, 2011. Courtesy of the artist.

Dehlia Hannah

> 'Our situation was somewhat dangerous, especially as we were compassed round by a very thick fog.'
>
> Roger Walton, 5 August 17— [1]

It is often forgotten that *Frankenstein; or, The Modern Prometheus* begins aboard ship in the Arctic Ocean, as a narrative recounted by a sea captain bound for the North Pole. In a series of letters addressed to his sister in England, Roger Walton conveys ambitions and tribulations that paint him as an archetypal explorer, in whom delusions of grandeur mix with sentimental indulgences of joy and despair. As he faces the trials of leadership and vicissitudes of fortune in the face of nature's extremes, he yearns for a friend to temper his judgments and in which to confide his emotions. One morning, an uneasy crew awakes to find their ship immobilised in the frozen sea, surrounded by an impenetrable fog. There, against all odds, Walton's wish for genteel company finds fulfilment with the rescue of a half-frozen man travelling on foot over the shifting surface of the ice. His determination to reach the pole outmatching even that of the ambitious explorer, Victor Frankenstein inexplicably refuses to board the ship until assured of its destination. Today's reader knows the reason for Frankenstein's absurd pursuit even before he discloses it to the novel's narrator; Victor seeks the death of the monstrous being that he has brought to life by artificial means, only to abandon in horror and regret. Having first pleaded for love and sympathy from his virgin father, the nameless creature now seeks vengeance, and their struggle unto death has driven them to the very ends of the earth. The tale would hardly be plausible had the sailors not witnessed an apparition in the fog that corresponded to Victor's description of a human form enormous in stature and impervious to the cold – the harshness of the environment a measure of his monstrosity. The novel thus begins with a pleading for the veracity of the story to follow, a demand that the reader draws inferences from the hazy edges of experience to still more marvellous and terrifying possibilities beyond.

Frankenstein's opening scenes in the Arctic double as a parable of the novel's origin story on the banks of Lake Geneva, amid the stormy weather of the 'year without a summer'. Both the fictional space of the novel, and the historical circumstances of its conception, attest to how a sense of climatic estrangement opens the mind to previously unfathomable notions. Written amid a climate crisis far more mysterious to Mary Shelley and her contemporaries than anthropogenic climate change is to us today, *Frankenstein's* text and context hold clues for understanding how attention, perception, and cognition are moderated under atmospheric conditions animated by unseen forces. This moment is exemplary, for unfamiliar things tend as often to be overlooked as to inspire curiosity. Fright may induce repression rather than provoke confrontation. And if strange phenomena do set the imagination to work, it may be in the direction of paranoia as opposed to insight – psychological dynamics clearly at work in the contemporary culture of denial surrounding climate change. Perhaps more insidious than outright rejection of the scientific consensus, aversion of attention offers a passive means of avoidance, allowing problems that warrant an immediate response to slip below the radar even in contexts where climate science is accepted.[2] Such tendencies are often condoned by social norms of attention, which, for example, preserve 'talking about the weather' as a banal space of neutral discourse. What makes it possible to notice aberrant phenomena and hold them within our sphere of attention, without freezing in shock or turning away in disbelief?

A Year Without A Winter stages a series of environmental disorientations designed to foster dwelling within spaces of uncertainty and ambiguity that typify forecasted climate futures. In contrast to the imperative of activist environmental art, which aims to clarify understanding of climate change and offer a take-home message about what to do about it, this project posits the need for deeper aesthetic explorations of the uncomfortable territory of ambiguity, indeterminacy, and our inextricable complicity in today's entangled ecological crises. Amitav Ghosh has recently argued that climate change remains *unthinkable* within a dominant cultural logic epitomised by the realist novel, the aesthetic conventions of which consign uncanny affects, rare and implausible events to the subgenres of science fiction, fantasy, and horror.[3] Horror is a genre populated by monsters often hailing from netherworlds or outer space, beings whose very existence is a 'violation of the natural order, where the perimeter of the natural order is determined by contemporary science.'[4] The confluence of Gothic aesthetics with Tambora-era climate valorised being overwhelmed by sublime landscapes and fascinated by monstrous visions, giving rise to new literary genres beyond the pale of realism. From colonial ambitions in the Arctic to aesthetic ambitions in the Alps, and later, lingering cold and famine, multiple interests converged in this historical

moment to reward attention to climate. And yet, as the monster stories of Shelley and John Polidori attest, it is not necessarily the image *of* climate or nature that sustains the strike of lightning, the torrents of rain, the fog that blankets the mind in mysterious environs. One cannot predict what delusions and insights may arise *within* an unfamiliar environment. Climate makes itself felt not only as manifest content (a preoccupation with ice and darkness) but more subtly, as context for strange affects and impossible beings. An imaginative grasp of climate change demands new ways of toggling between figure and ground, allowing the diaphanous and unstable conditions of climate to arrest attention as fellow protagonists in our contemporary drama. If these conditions evade comprehension, this is due as much to aesthetics of art and nature as to the idea of climate itself.

The concepts of climate, atmosphere, air, and ambience present a slippery constellation of objects and metaphors. Connoting at once the transparent and omnipresent background condition of worldly affairs and a specific set of conditions to be measured and moderated, the influence of atmosphere can be hard to recognise, much less, to control. Like tools, which, according to the Heideggerian phenomenological tradition, we use without noticing their particular properties, climate calls attention to itself only when it loses its primary attribute of reliability. Bad weather, pollution, smoke conditions, and invisible toxins bring a disturbing hypervisibility to the sky.[5] Geographer Mike Hulme argues that the idea of climate is an abstraction of the human mind and its methods of calculation whose function is to introduce 'a sense of stability or normality into what would otherwise be too chaotic and disturbing an experience of the unruly and unpredictable weather.'[6] As the object of atmospheric science, 'climate' denotes the statistical average of weather conditions at a particular locale ranging in size from a room to the globe, over a period of time, from seasons to millennia; thirty years, by the standards of the World Meteorological Organisation. In contrast to the rain on one's skin, climate works upon thought, moderating expectations and near- and long-term strategies for dwelling within varied environs. Architecture, clothing, hunts, and harvests are attenuated to a range of physical affordances of environments, which are rendered (relatively) predictable through cultural ideas of climate. As Cynthia Selin and I have argued elsewhere, climate is a *lived abstraction*, whose contours can be traced in fashion trends and everyday practices of anticipation such as dressing for the weather.[7] As climates change physically and our forms of life within them evolve, for example, through the use of climate control technologies, transportation, communications, and the fuels that power them, cultural ideas of climate must adapt as well if they are to continue to serve their social function on instilling a sense of order within the ever-fluctuating atmosphere. The increasingly variable physical condition of the atmosphere today thus shifts a heavy burden of anticipation onto culture.

Anthropogenic climate change challenges the cultural imaginary on many levels, first and foremost because it flies it the face of the aspiration to stability. 'Expect the unexpected' is the mantra of workers at the front lines of climate chaos – a monstrous violation of the very idea of climate. Yet it is not merely the increased variability of weather but the *scales* of abstraction that challenge our capacity to think climate and its changes today. In their study of the ancient Greek concept of *klima*, for example, James Fleming and Vladimir Janković argue that climate has long been conceived as an *agency* affecting human bodies and societies rather than an *index* of physical patters of the atmosphere, as it is in today's scientific world picture.[8] Historically, ideas of climate were attuned to local geographies and the forms of human and non-human life to which they were imagined to be conducive. In the Aristotelian imaginary, climates were plural, divided between gracious temperate regions and inhospitable torrid and frigid zones. Climatic and geographic extremes converged near the Earth's equator and its poles. In the early nineteenth century, Alexander von Humboldt would add altitude to consideration, defining climate as '*all the changes in the atmosphere which sensibly affect our organs*, as temperature, humidity, variations in the barometrical pressure, the calm state of the air or the action of opposite winds, the amount of electric tension, the purity of the atmosphere or its admixture with more or less noxious gaseous exhalations, and, finally, the degree of ordinary transparency and clearness of the sky, [...] *with reference to the feelings and mental conditions of men*.'[9] Any understanding of anthropogenic climate change relies on a concept of global climate that emerged only in the twentieth century, with the development of vast weather monitoring and communications infrastructure that made it possible to track wind patterns, ocean currents, and states of the atmosphere worldwide.[10]

Dehlia Hannah, Julian Charrière, *A Year Without A Winter: An Invitation to Disappear*, 2018, pp. 24–27. Courtesy of the artists.


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The atmospheric sciences treat climate as an index, a set of empirical data to analysed and modelled into global statistical abstractions, yet the discourse of agency pervades discussions of the effects of climate change on economies, environmental justice, political conflicts, migration, food security, and so forth. What does it mean to be subject to the ghostly agencies of an abstraction, a global climate unevenly saturated with the effluence of agencies of our own? How and where does one encounter such distributed agencies and their effects?

Today, as the polar vortex whips cold air down to lower latitudes from a warming Arctic, mountains lose their snowcaps, and the Gulf Stream holds hot air stagnant over the Atlantic, climatic extremes betray familiar geographies. Concomitantly, travel, personal communication, and mass media proliferate our exposure to environmental conditions at disparate locations worldwide, mixing in cultural space even as they swerve in physical space. Weather speaks to us from all directions in a polyphonic babble, which resists abstraction to stabilising patterns. Before climate change can be clarified, the idea of climate must be rethought. And in order to be rethought, it must be reencountered, through aesthetic forms, images, narratives, and vectors of experience through the world itself.

Today we find ourselves within a troubled atmosphere, a place which affords no distant vantage point, bird's eye view, or comfortable illusion of innocence. One must find places for the imagination to play within disturbed concentrations of atmospheric gases, clouds of smoke, burning forests, and commodified skies. These conditions offer a constant reminder that we do not wander alone. From aesthetic encounters with contemporary environments, there must emerge new cultural ideas of climate, notions which nonetheless retain their familiarity and continuity with older senses of the term through deliberate conceptual inversions and category violations. We must develop an idea of climate as figure rather than ground, which highlights the range of variation in weather rather than the mean, takes account of the reciprocal influence of human activities on 'all of the changes of the atmosphere', comprehends the relation between scales of abstraction from local to global, and tracks associations between short-term variations and long-term trends – a domain in which we are irreducibly imbricated, complicit, and far from disinterested. Ultimately, it must render the monstrous intelligible within the domain of the real.

Karolina Sobecka, *A Memory, an Ideal, and a Proposition – Cloud A: A Memory*, 2017. Material reconstruction of the Tambora Cloud, 5 April 1815. Courtesy of the artist.

1
Mary Shelley, *Frankenstein; or, The Modern Prometheus*, Toronto: Broadview Press, 1999 [1831 edition], p. 56.

2
Kari Marie Norgaard, *Living in Denial: Climate Change, Emotions, and Everyday Life*, Cambridge, MA: MIT Press, 2011; Eviatar Zerubavel, *Hidden in Plain Sight: The Social Structure of Irrelevance*, New York: Oxford University Press, 2015.

3
Amitav Ghosh, *The Great Derangement: Climate Change and the Unthinkable*, University of Chicago Press, 2016.

4
Noël Carroll, *The Philosophy of Horror; or, Paradoxes of the Heart*, New York: Routledge, 1990.

5
Peter Sloterdijk, *Terror from the Air*, Los Angeles: Semiotext(e), 2009.

6
Mike Hulme, 'Climate and Its Changes: A Cultural Appraisal', in *Geo: Geography and Environment*, vol. 2, no. 1 (21 May 2015), pp. 1–11; 2.

7
Dehlia Hannah, Cynthia Selin, 'Unseasonal Fashion: A Manifesto', in James Graham et al. (ed.), *Climates: Architecture and the Planetary Imaginary*, Zürich: Lars Müller Publishers, 2016, pp. 222–31.

8
James Rodger Fleming, Vladimir Janković, 'Introduction: Revisiting *Klima*', in Osiris, vol. 26, no. 1 (1 January 2011), pp. 1–15.

9
Ibid., pp. 5–6 (emphasis mine).

10
Paul N. Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming*, Cambridge, MA: The MIT Press, 2013.

Errant Wandering

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This essay was first published in *A Year Without a Winter*, (ed.) Dehlia Hannah, New York: Columbia Books on Architecture and the City & Columbia University Press, 2018.

Nadim Samman will give a lecture at the Sonic Acts Academy conference on 23 February.

Nadim Samman

'I have no doubt about one thing, however, if we do not travel toward each other, we will eradicate each other.'
Vilém Flusser, *Nomads*

Paul Rosero Contreras, *Arriba!* (2017), Paradise Bay, Antarctica. Live Ecuadorian cocoa tree, custom greenhouse. Photo by Paul Rosero Contreras.

But *we* are not just people. We are animals, plants, and microbes, too. Our 'world of habit' has for too long proposed a *we* that represses ecology, locating nonhuman others beyond the pale of home. But this habit, this abode, 'is becoming uninhabitable'.[1] Its walls are perforated – bearing news/gifts/threats from beyond. What news? Waking dreams: A knocking at the door, for want of its own home; a breach in the firewall and a listener on the phone. There are termites in the floorboards and cockroaches in the cupboards. Insurgency. *They* are coming for us. *They* are already here. *It* also approaches: the oceans' rising hunger for land, from Manhattan to the Maldives. *It* has already happened, the Larsen C ice shelf afloat in the Weddell Sea. A plague of jellyfish in the Mediterranean, stinging bathers' toes; a leaking reactor, seeding global tides. In academic philosophy, the (meta) physical 'great outdoors, the absolute outside' invading the Cartesian hearth.[2] Compounding the overturning of habit which Vilém Flusser associated with the 'telematic' age, *we* find it impossible to ignore the undermining of habitats – a refugee crisis and a sixth mass extinction. Art's habitual residence? – the museum. The curator's habitual task, until the 1960s? – 'hanging and placing' work on walls.[3] Today, the aesthetic-political shibboleth of a 'big, beautiful wall' only bolsters Szeemann's demand that we abandon this task.[4]

Antarctica (-64.8499966, -62.8999964); piercing light across a bay of icebergs, whipped into shape by wind and sea; some curved, others striated, bearing stalagmites and deep blue fissures. A rocky shoreline, soon becoming steep, upwards on one side approaching a lookout. On the far side of this ridge, a channel ringed by hulking glacial cliffs that fracture like Carrera marble at the water's edge. Above them, rising into the clouds and out of sight, ice upon ice; aeons of snow. Here, today – taking up less than one square metre of the continent's 14 billion – is a live cocoa tree that has travelled all the way from the Ecuadorian rainforest. Set within a life support system (a glass green-house whose interior climate reproduces equatorial conditions), its verdant leaves cast a surreal tint over the polar scene. This tree has wandered far from home. So has

the artist who planted it.[5] Under the aegis of the First Antarctic Biennale, so has the institution of the biennale itself – and, most obviously, the curatorial mandate.[6]

In light of the above, the following question presents itself: How has the site of the exhibition wandered so far from its historical locus – the *home* of the muses? In attempting to answer, let us offer some notes toward a theory of the curatorial agent as monster, pirate, authority, and pilot – by appeal to her environmental engagements. Let us consider wandering as curatorial method – exhibition-making in an errant mode, beyond galleries, indeed, beyond cities. This curating traverses the globe, from domestic settings to geographical extremes – reconfiguring spatial, jurisdictional, identity, and narrative values through its (sometimes uninvited) presence(s); rescoring environments.

According to a prominent member of the strategic studies community, contemporary society is undergoing 'a fundamental transformation by which functional infrastructure tells us more about how the world works than physical borders'.[7] And yet, this infrastructure also clouds our vision. It is disorientating, in so far as it advances epistemological equivalence; apparently disclosing a lack of privileged vantage points from which to survey an intellectual/cultural scene. Under this hyperlinked condition, one site gives way to another – both physically and conceptually. But at least part of the 'post-truth' lie – and the seizure of sovereignty that it enacts – stems from the less than visible characteristics of infrastructure itself. As the task of disclosure grows more urgent, its mines, cables, server farms, and security apparatus are beginning to feature in exhibitions.[8] The expanded sovereignty of today's exhibition obtains in the vector itself. That is to say, 'working the world' consists in the functional: operating at least some of the control protocols of *spaceship infrastructure*.

My use of the term *spaceship infrastructure* proceeds from a reflection on the emerging wave of geopolitical theory, which sets out to 'map' the technical integration of the globe in order to comment on the contemporary condition(s) of sovereignty. In the detail and methodological basis of their diagnoses, writings by figures from opposing ends of the ideological spectrum (such as Parag Khanna and Benjamin Bratton) dovetail in inviting the conclusion that Buckminster Fuller's book, *Spaceship Earth*, was less a manual and more a prolegomenon to any future one. Keeping the latter's spaceship-Earth dyad in the frame, we may suggest that both thinkers' reflections are turned towards the spaceship. The ship, as anyone who has spent an extended period at sea is likely to reflect, is a totally designed environment – one whose architecture scores, in the manner of choreography, life onboard.[9] Herewith, Khanna's explication of living within: 'There is no undesignated space [even] the skies are cluttered with airplanes, satellites, and increasingly drones, layered with CO_2 emissions and pollution, and permeated by radar and telecommunications'.[10] Bratton similarly speaks from the interior. His model 'does not put technology "inside" a "society", but sees a technological totality as the armature of the social itself'.[11] We 'dwell within' an 'accidental megastructure [...] a new architecture' that 'divide[s] up the world into sovereign spaces'.[12] This megastructure incorporates 'infrastructure at the continental level, pervasive computing at the urban scale, and ambient interfaces at the perceptual scale', amongst other things.[13] For Bratton (though reflected in Khanna's comments on the sky), maps of horizontal space (planar geography) 'can't account for all the overlapping layers that create a thickened vertical jurisdictional complexity'.[14] There is, we know, more than one deck on a ship.

Curatorial Authorship is, taking these considerations into account, a vector through various layers of jurisdiction, engaging each of their respective designations (or score), and (re) interpreting them in turn. What Bratton terms the 'design horizons' of each layer must be probed for unintended affordances – pieces of open source code; latent architectural possibilities. In some cases, layers may be totally redesigned. Beyond a purely material frame, we observe that 'jurisdictional' accommodates the soft specificities of site identified by Miwon Kwon, namely 'cultural debates, a theoretical concept [...] a historical condition, even particular formations of desire'. In light of all this, today's wandering curatorial enterprise – which we may term a *total* species of exhibition design – incorporates acts of renovation, rescoring/(re) interpretation, renegotiation, and even re-desiring, in its (sovereign) operations.

Rather than arranging objects on the walls of a gallery or museum, the first task of layered curating concerns selecting what jurisdictions are to be put on display in a given project. The subsequent task of (critical) exhibition design consists in staging their relation to one another (drawing out their points of connection) as a complex, and altering arrangements within each – arguing the case. In this process of

rearranging, we have recourse to existing choreographies supplied by artists, and the option of commissioning new works/levers. But we may not always need to deploy 'art' in our operation – or, at least, deploy it correctly.[15] Moreover, in pursuit of real disclosure, the 'making visible' proper to the concept of the *exhibit*, we may find ourselves wandering beyond museums, galleries, and perhaps cities. We may even leave, at least to a cursory view, exhibition audiences behind. But, in fact, it is in this errant mode that the author/ship of curating actually steers towards them.

We errant curators 'leave' our walled cities (our green zones) for geographical extremes not to escape, but to make the contemporary hearth more visible – spaceship infrastructure is always already *everywhere*, as far as we are concerned. If a curator wanders towards a place like Antarctica, it is because all putative elsewheres are already coming for us. In wandering, our procedure consists in toggling between (geographic) distance and functional proximity – an exemplary making visible of the latter. This mode of display (re)maps the audience's position in relation to 'distant' locales, for the purpose of tracing the former's impact on them (ecologically, for instance). Conversely, it illuminates the sway such spaces hold over one's immediate situation. This curatorial vector exhibits the condition of operative inseparability which binds seemingly heterogeneous economic, social, ecological, identitarian, and geographic domains. Rather than an exclusive focus on 'states and their divisions' (the demarcation of borders, which, we maintain, need not be interpreted solely in a geopolitical sense, but which may circumscribe multifarious jurisdictions), we aim to deliver the exhibition as complex para-state and/or parasite. Rather than instituting visual and informational opacity, and spatial inaccessibility, within our projects in order to disenfranchise the audience, we do so in order to lay bare otherwise obscure mandates for authorship. We leave, in order to return (the audience's space to them). We take in order to give.[16] And so, off we wander…

1
Vilém Flusser, *The Freedom of the Migrant: Objections to Nationalism*, Urbana and Chicago: University of Illinois Press, 2003, p. 39.

2
Quentin Meillassoux, *After Finitude*, London: Bloomsbury Publishing, 2012, p. 7.

3
Harald Szeemann quoted in Carolee Thea, *Foci: Interviews with Ten International Curators*, New York: Apex Art Curatorial Program, 2001, p. 17.

4
Tracy Jan, 'Trump's "big, beautiful wall" will require him to take big swaths of other people's land', in *Washington Post*, 21 March 2017 (available online).

5
The work, titled *Arriba!* (2017), is by Paul Rosero Contreras. It was conceived as a kind of tropical time capsule, referencing the fact that 50 million years ago Antarctica itself had a wholly different climate. Fossils of tropical flora have been discovered in the region where the work was installed.

6
The expedition of the First International Antarctic Biennale, held under the patronage of UNESCO, left the shores of Tierra del Fuego on 16 March 2017, and concluded with a ceremonial reception in honor of the Biennale participants at the Faena Museum in Buenos Aires on 29 March. Its commissioner was artist Alexander Ponomarev and its co-curator Nadim Samman. See www.antarcticpavilion.com.

7
Parag Khanna, *Connectography: Mapping the Future of Global Civilization*, New York: Random House, 2016, pp. 16–17. He continues: 'The true map of the world should feature not just states but megacities, highways, pipelines, Internet cables, and other symbols of our emerging global network civilization'.

8
From attention to the geology of media in the art of Revital Cohen and Tuur Van Balen to the mapping of transatlantic cables in the productions of Trevor Paglen and Lance Wakeling; from the labour conditions at Google scanning facilities in a project by Andrew Norman Wilson to Simon Denny's physicalisation of the PowerPoint ideology of the PRISM surveillance enterprise.

9
The work of artist-architect Alex Schweder, whose practice is self-defined as 'performance architecture', is pre-eminently concerned with this condition.

10
Khanna, p.15.

11
Ibid., p. 17.

12
Benjamin H. Bratton, *The Stack: On Software and Sovereignty*, Boston: MIT Press, 2016, p. 17.

13
Ibid., pp. 3–4.

14
Ibid., p. 4.

15
My *Treasure of Lima: A Buried Exhibition* was a signal example of deploying art 'incorrectly' – if the correct thing to do is not bury the artist's agency and artwork beneath a total(ising) curatorial proposition. For a discussion of this project see an extended version of this essay in Dehlia Hannah (ed.), *A Year Without a Winter*, New York City: Columbia University Press, 2018.

16
Sometimes we display complete authority over objects (such as artworks), subjecting them to iconoclastic conceptual appropriation. Done without a critical conception of (dis)play, this move is rightly abjured. However, when we are endeavouring to disclose how certain spaces, and the objects within them, are already appropriated, travesty is unavoidable.

Objecthood: On Fire

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This essay is the introduction to *Objecthood #7*, the seventh instalment of *Objecthood,* a series of podcasts curated by Roc Jiménez de Cisneros and produced by Ràdio Web MACBA. You can find the complete series at https://rwm.macba.cat/en/buscador/radio/serie/objecthood-9471.

Objecthood is a series of podcasts about objects and new perspectives on the role of the object in contemporary art and philosophy. *Objecthood* #7 is produced by Ràdio Web MACBA (RWM), an online radio based at MACBA Museu d'Art Contemporani de Barcelona. RWM is a radio-beyond-radio that dwells in the folds and intersections of critical thinking, contemporary art, artistic research, activism, knowledge transfer, sound, and everything in between.

RWM is part of Re-Imagine Europe, a project initiated by Sonic Acts and coordinated by Paradiso in collaboration with Elevate Festival, Lighthouse, INA GRM, Kontejner, Bergen Kunsthall, A4, and Disruption Network Lab.

Roc Jiménez de Cisneros

The eruption of Eyjafjallajökull, Iceland, 2010. Photo by Boaworm. Wikipedia, CC BY 3.0.

Negus – a film by Simone Bertuzzi and Simone Trabucchi, the duo better known as Invernomuto – is a sort of audiovisual and historical exorcism that binds together music, magic, and politics. The spiral timeline of the film starts with an actual historical event that took place in the Italian village of Vernasca in 1936, during Italy's occupation of Ethiopia. To celebrate the return of a local wounded soldier, villagers spontaneously held a ritual in the main square, in which they burned a home-made effigy of Haile Selassie I, the last Negus of Ethiopia and the messiah of the Rastafari movement. But that effigy is not the only thing that burns in *Negus*. Fire is one of the driving forces throughout the movie. Fire burning the Negus effigy in 1936; fire as part of the shamanic counter-ritual orchestrated by Lee 'Scratch' Perry in the very same village square, about 80 years later; fire consuming his legendary Black Ark studio in the late 1970s, Perry's own way to get rid of what he called 'unclean spirits'.

Alan Moore argues that the use of fire for cooking was the crucial turning point in the development of consciousness in pre-historic times, in what he calls 'the great Palaeolithic bake-off'. Moore describes this milestone as the moment 'when some early hominid actually left a spud too close to the campfire or, conceivably, when some unlucky early hominid was struck by lightning and, after a few moments of appalled horror, his tribes mates thought "actually, that smells rather good".' Before the invention of cooking, he says, 'we needed to use about 90% of a food's calorific value just in chewing it. Which is not very efficient. And we had these huge jaws for the purpose of doing that. When cookery happened and we found a way to make food softer, over the subsequent millennia, the shape of our jaws changed. We no longer needed these gigantic jaws, so they got smaller. This enabled our upper skull to expand massively, and we filled that with brains.' There you go. Fire as the enabling element for cooking, but also as a catalyst for evolution. Stephen J. Pyne puts it like this in his fantastic volume, *Fire, A Brief History*: 'Humanity and fire have blended into an almost biological symbiosis. Nearly everywhere fire has assumed a human face and become humanity's pyric double. Since the first tread of Homo Sapiens, fire ecology has meant human ecology.'

When modern physicists developed our recent understanding of entropy, the combustion of everyday fuels – such as wood turning into embers turning into ashes – was one of the recurring examples of the idea. Ashes are the ultimate illustration of irreversibility. You may be able to fix a broken glass, a bent umbrella or a fractured bone, but once something burns to a crisp, there is no turning back. That's why the mighty Phoenix rising from its own ashes in Greek mythology is such a powerful image and such a compelling story, because it essentially means turning back the arrow of time and throwing entropy out the window.

It is that irreversibility that adds value to rituals involving fire. Flames are the element that imparts brutal entropy onto whatever is being enacted, celebrated or symbolised: the infamous Disco Demolition Night in 1979, in which thousands of disco records were burnt in a Chicago baseball stadium as part of a radically racist and homophobic promotional event; the alleged human sacrifices in the wicker man burnings of Celtic paganism; fire sacrifice ceremonies across various Vedic religions; the Norwegian black metal church burnings in the 90s; the Catholic persecution of so-called witches, heretics, and other dissenters burnt at the stake throughout the middle ages; the recurring references to 'blood and fire' in Rasta culture… the list goes on. In fact, fire worship is among the oldest recorded forms of religion, appearing to varying degrees as some sort of supra-natural, extremely powerful entity in pretty much all religions, most likely due to the importance of fire in human culture since the Lower Palaeolithic.

In places where fire was part of the landscape, as in Iceland, mythology is closely related to fire. Iceland is a land of ice, yes, but also very much a land of fire, lava, and turbulent steam emissions that constantly remind its inhabitants that the world beneath this one is hotter than we sometimes like to think. The *Völuspá*, a collection of Icelandic myths compiled in the thirteenth century but probably written earlier, describes the end of times like this: 'The sun fades away, the land sinks into the sea, the bright stars disappear from the sky, as smoke and fire destroy the world, and the flames reach the sky.' In an island with that much volcanic activity, it is understandable that creation myths would be forged in fire. In 1783, the Laki volcano in southern Iceland erupted, blasting lava, ash, dust, and gas during a period of eight months, disrupting weather patterns, agriculture, the economy, and transport across the northern hemisphere. It directly killed a quarter of Iceland's population, caused a famine in Egypt, froze a section of the Mississippi River, and halted the economies of northern Europe to such an extent that many environmental

Wildfire in the Simi Valley (Simi Hills), Southern California. U.S. Air Force photo by Senior Master Sgt. Dennis W. Goff, 2003.

Photo by Luis Paredes.

historians consider it a major factor in the build-up to the French revolution of 1789. In other words, fire is an incredibly useful tool, but also a hazard, a dangerous element. Ready to be weaponised.

For centuries, fire and incendiary weapons were among the most effective, destructive, and feared agents of warfare in battles and sieges. Fire was the easiest means of destroying territories, and it did not require great skill or manpower. It was used in countless raids by the Scots during the Wars of Independence, in which soldiers burned large portions of the northern English countryside, effectively transforming the whole region. England quickly adopted the Scots' tactics during the Hundred Years' War in France, where fire became the main weapon in an effort to completely destroy the French landscape and therefore its economy. As the famous quote by Jean Juvénal des Ursins says, 'war without fire is like sausages without mustard'.

At the beginning of Stephen King's 1974 novel, *Carrie*, the protagonist is bullied while covered in water, in the girls' showers after physical education class, and she closes the circle of hatred at the end of the story with the opposite of water: fire, burning down the prom and everyone in it. Shelley Stamp points out that 'Carrie does not so much destroy the high school as subject it to ritual purgation through fire and water, using the water hoses and electrical equipment at hand.' So the final catastrophe in the novel is Carrie's own rebellious take on her mother's constant indoctrination about purification, teenager-style.

Fire is also one of the threads running through Christopher Nolan's *Dark Knight* trilogy. In all three films, fire is almost synonymous with the raw, uncontrollable, evil power of the villains terrorising Gotham. But most of all, it is again a symbol for cleansing: purification through the immolation of a rotten and corrupt system – what the Rastafarians would call Babylon. In the first episode, while burning down Wayne Manor, Ra's Al Ghul tells Batman that 'when a forest grows too wild, a purging fire is inevitable and natural.' In the second movie, trying to account for the Joker's irrational behaviour, Alfred tells Wayne that 'some men just want to watch the world burn', right before Joker starts igniting the streets of Gotham. And in the third and final instalment, Bane quotes Charles Dickens's *A Tale of Two Cities* with his simple, grim warning of what's to come: 'The fire rises'. Yes, it does, Bane, but only around here. On Earth, or any other large object with enough gravitational pull, fire points upwards. When a flame burns, it heats the atmosphere around it, causing the air to expand and become less dense. The pull of gravity draws colder, denser air to the base of the flame, displacing the hot air, which, as Bane says, rises. But in outer space – say, inside a spaceship – with less oxygen and less gravity, hot air expands but doesn't move upward. In space, flames expand spherically, and they are way harder to put out. In March 2009, NASA began testing what they called FLEX (Flame Extinguishment Experiment) on the International Space Station, in order to better understand how fire behaves in microgravity and to develop reliable fire suppression mechanisms for next-generation crew exploration vehicles, which is, of course, a top safety priority in such a delicate environment.

Andy Weir's SF novel *Artemis* is a witty, action-packed crime thriller set in a Moon colony engulfed in a complex conspiracy involving money, energy, the mafia, and high-speed communications. But ultimately, *Artemis* is also, quite simply, a story about scarcity, about things that are not there. There is no air on the moon, there is way less gravity, and essential everyday goods are extremely hard to come by. The plot revolves around the main character, Jazz Bashara, dealing with those missing things on the lunar colony, as well as the things that the inhabitants of Artemis must avoid at all costs, like fire. In one passage, Jazz has a meeting with one of the colony's wealthy businessmen, who tries to downplay the danger that his beloved contraband cigars pose in that fragile environment. 'I have a sealed room! My smoke doesn't bother anyone! It's injustice, I tell you!'. To which Jazz responds: 'Oh, you're so full of shit. It's fire. A fire in Artemis would be a nightmare. It's not like we can go outside. Flammable materials are illegal unless there's a really good reason for them. The last thing we want is a bunch of idiots wandering around with lighters.'

Outside of the realm of fiction, sadly, the phrase 'a bunch of idiots wandering around with lighters' seems to point directly at the core of recent wildfire disasters. In an attempt to downplay the impact of drought and climate change, an online disinformation campaign tried to present arsonists as the main cause of the Australian bushfires at the end of 2019. But 'a bunch of idiots wandering around with lighters' could also easily work as the tagline for the brutal wildfires that destroyed about a million hectares of Amazon rainforest in the summer of 2019. The huge spike in the number of wildfires in the area was due to a

combination of illegal but common slash-and-burn farming methods (the cutting and burning of plants to clear the land for cultivation) and the sudden rise of temperatures that come with the dry season. And it was considerably worsened by the complete disregard of the companies and governments involved in the exploitation of the rainforest. Slash-and-burn techniques have been used for millennia in the Amazon Basin, and they can be seen as a kind of pharmakon, both poison and remedy. Easily destructive when external factors align, they are also directly responsible for the large number of 'black soil' sites in the region, which are the result of the method that Indigenous people of the area used to turn the barren Amazon grasslands into fertile ground. These dark patches of terrain are known as 'terra preta' ('black soil' in Portuguese) because of their characteristic black colour, which comes from charcoal, the main ingredient in a mixture that also includes bone fragments, broken pottery, and animal excrements. Charcoal remains in the soil for thousands of years and helps retain minerals and nutrients, so this by-product of burning has been a crucial agent in the development of agriculture in Amazonia.

In his book, *Environment, Scarcity, and Violence*, Thomas F. Homer-Dixon highlights the importance of tropical forest regions not just as a carbon dioxide sink, but also as 'a vast repository of genetic information, the majority of it contained in insects and microbes not yet identified or catalogued.' A biodiversity that he says 'is a priceless resource for the development of new crops, medicines, and a wide array of industrial products from paints to lubricants.' Homer-Dixon then points out the direct correlation between ecosystem simplification (the reduction of biodiversity in croplands, planted forests, and other managed ecosystems) and extinction. He talks about small-scale extinction, but most of what he says applies to so-called mass extinction events, of which experts have so far identified five in pre-historic times, plus a sixth one in the making, thanks to our titanic efforts.

In 2009, palaeontologist Peter Ward proposed his provocative Medea Hypothesis to explain mass extinctions in terms of self-destruction: the idea that multicellular life on Earth is suicidal, or biocidal, by nature. Or as he puts it, that 'life is less than benign to species other than itself'. According to this hypothesis, which uses the Greek myth of Medea (representing the Earth), who kills her own children (multicellular life) as a metaphor, mass extinctions are simply the Earth's way of returning to its default microbial-dominated state. In a sense, Ward's theory is Phoenix-like, an anti-Gaia mechanism that pushes down its own entropy level – which, incidentally, includes the current, human-made ecological crisis.

Perhaps the best-known example of the big five irreversible extinction landmarks – although it that cannot be understood as a Medean event, since it had nothing to do with microbes or intelligent life on Earth – is directly tied to fire. In this case, fire falling from outer space. The Cretaceous–Palaeocene extinction event, about 66 million years ago, was one of the major turning points in the planet's life, the one that wiped dinosaurs off the face of the Earth, along with three-quarters of all plant and animal species. The ultimate cause of the event is still subject to debate, but it is widely accepted that a 10-to-15-kilometre ball of fire, an asteroid, impacted the Yucatán Peninsula in Mexico, releasing more than a billion times the energy of the atomic bombings of Hiroshima and Nagasaki. Short-term effects of this massive fireball hitting Earth include large land surfaces incinerated by the heat pulse of the incoming projectile and the explosion, and the settling of dust and water vapour and oxidation of atmospheric nitrogen with the subsequent ozone depletion. Once again, fire was one of the chief shaping elements of the planet.

It is hard for us to imagine Earth without fire. But that was in fact how it was for a very long time. Earth was a fire-proof planet, simply because some of the essential pre-requisites for ignition were not there. Peter Ward reminds us that 'what we call an Earth-like planet is actually a very short interval of time'. For over 2 billion years, our atmosphere contained virtually no oxygen. Cyanobacteria started producing oxygen by photosynthesis around 2.7 billion years ago. And even then, oxygen only became relatively abundant around 500 million years ago. Plants on land surfaces suitable for combustion did not appear until 400 million years ago, so the first actual fires did not flicker on this planet before the early Devonian period, as the oldest fossil charcoal dates seem to confirm. Andrew Scott's claim that 'fire is an expression of life on Earth and an index of life's history', might initially appear a bit grandiose and grossly anthropocentric, because life on the Blue Planet far precedes us. But it is actually easy to equate fire with several periods of acceleration, although this does not necessarily refer to 'life' in general. Not an increase in biodiversity, but an acceleration within OUR

species. It happened in the Pleistocene, and once again, quite recently, with the Industrial Revolution. A couple of centuries ago, humans exchanged surface biomass for fossil biomass in order to burn and power the new emerging industrial network, to pump up food production, push the population to new extremes, and so on. It is hard to imagine all of this without pre-packaged, industrial fire. So, Scott's description of fire 'as an index of life's history' may not be as triumphant as it looks.

Photo by Luis Paredes.

A SHORT PLAYLIST ABOUT FIRE

Maxie, Niney, Scratch – *Babylon's Burning* (Trojan Recordings, 1971)
The House Crew – *Keep the Fire Burning* (Production House, 1991)
Vangelis – *Chariots of Fire* (Universal Music, 1981)
Burzum – *Aske E.P.* (Deathlike Silence, 1992)
M.B.P. Mix – *Light My Fire* (Major Minor, 1967)
Noise Factory – *The Fire* (3rd Party, 1992)
The Prodigy – *Firestarter* (Mute Records, 1996)
Bloodhound Gang – *Fire Water Burn* (Geffen Records, 2002)
Adam X & Frankie Bones – *Hotter Than Hell* (Fabulous Music UK, 1991)
Max Romeo – *Fire Fe The Vatican* (Blood and Fire, 1999)

Cosmorama:
A Peep Show of the New Space Age
RANIA GHOSN and EL HADI JAZAIRY

In 1968 Buckminster Fuller wrote, "We are all astronauts." In his book *Operating Manual for Spaceship Earth* (1969), the planet is compared to a vessel hurtling through space, with limited provisions and humanity as its crew. For Fuller, Earth could no longer be thought of as a natural object but instead must be recognized as a huge artificial construct. Originally delivered as a lecture to the American Planners Association, Fuller's "Spaceship Earth" challenged designers and policymakers to consider our planet part of a larger universe. Fuller also experimented with storytelling to engage cosmic imagination. In his *Tetrascroll: Goldilocks and the Three Bears, A Cosmic Fairy Tale* (1982), Fuller narrates ideas and structures about the universe and man's place in it to his daughter Allegra. Gradually, the story becomes a cosmic seminar, with Goldy leading the Polar Bear family in a teach-in sky-party.

How do we narrate and tackle 21st-century tales of the New Space Age—asteroid mining, life in zero gravity, and space debris? Space, the final frontier, recently regained significance with private space initiatives speculating in off-sourced extraction for water, platinum group metals, and other resource riches. Commercial companies are increasingly invested in exploratory missions to map, visit, and return astronomical rock samples to Earth. Until recently, commercial companies' claim to business in space seemed nearly impossible. Not anymore. Companies like Planetary Resources plan to extract billions of dollars' worth of ore from near-Earth asteroids. In February 2018, Elon Musk's Tesla Roadster and its dummy driver, Starman, made headlines when the car blasted off with David Bowie's "Space Oddity" booming from its speakers. The symbolism of a dashboard screen displaying DON'T PANIC resonates with billionaire entrepreneur Elon Musk's worries about the next extinction and his thoughts that humans need to evacuate Earth and become interplanetary, with plans for the ecological colonization of Mars. In this emerging New Space Age, outer space is no longer the "common heritage of mankind," as declared by the United Nations' Outer Space Treaty (1967) but now an extension of private corporations tied to politics on Earth.

The following three geographic stories stage these concerns and invite a consideration of environmental politics in the heavens as it is on Earth.

Mining the Sky

The franchising of outer space will become reality. According to the 2015 US SPACE Act (Spurring Private Aerospace Competitiveness and Entrepreneurship Act), US citizens have the right to engage in the "exploitation of extra-planetary resources," which essentially allows them to trade in resources from other planets—a clear violation of the 1967 Outer Space Treaty that prevents any state from exercising national appropriation of sovereignty or by any other means. The privatization of outer space is expected to drive the nascent New Space entrepreneurial movement. The captured asteroids will be despun and towed to a mining depot at the Earth-Moon L1 Lagrange point—a position where the combined gravitational pulls constitute a stable equilibrium point. Robotic arms will process the asteroid in one of two ways: hollow out the core, collecting the trail of debris in the fabricated cave, or mine the surface to carve faces of the gods of the New Space Age (a cosmic Mount Rushmore). The mining station will serve the human settlements via the Interplanetary Transport Network. Objects travel through gravitational highways in the solar system, requiring minimal energy. Extraction stations will constitute the first artificial constellations visible by the human eye from Earth. A modern astronomical sense of the term "constellation" is a recognizable pattern of stars whose appearance is associated with mythological characters or creatures or with earthbound animals. The Capitalocene

Rania Ghosn will give a lecture at the Sonic Acts Academy conference on 22 February.

civilization creates its own pattern in the sky based on stories and people that are deemed important.

Planetary Ark

Planet Earth is in the midst of its sixth mass extinction of plants and animals, with as many as 30 to 50 percent of all species heading toward extinction by midcentury. Climate change and uncertain futures define a new normal on Earth. Animal species at (or past) the brink of extinction are sent out in a cubicle on a Planetary Ark. The animals march into the Empire State to embark on their journey. Scientists on board believe humans have an ethical obligation toward all life-forms: no to extermination, extinction, and genocide. The anthropocenic version of the ark includes "sacrificial" animals that were launched into space on scientific experiments to test the human body's ability to survive spaceflight. Laika, one of the first animals in space, was never expected survive and died within hours from overheating. The Planetary Ark—or "ship of fools"—is also a place of refuge for scientists and environmentalists, after denialists have dismissed global warming as "nonsense" and a "hoax" and omitted the words "climate change" altogether from all government communications. In this microcosm, travelers embrace their fellow travelers with remarkable care, so a few thousand years later their offspring form a new creature made entirely of the merger from all forms of life on the spaceship. The ark takes seriously the relations between people and other critters, animal or not. Its return to Earth appeals for a radically altered sense of subjectivity and terrestrial values.

Pacific Cemetery

Already in 1966, a *Life* magazine photo essay alerted its readers to the "growing clutter of space trash" and observed, just as cities had become clogged with animal waste and garbage, space trash could eventually become the proper concern of extraterrestrial street cleaners. Over the coming decades, thousands of satellites will be launched into space and eventually decommissioned after 15 years of operation. More than 1,400 nautical miles from the nearest land, Point Nemo is already the cemetery of deorbited spacecraft. The cemetery includes the Soviet-era MIR space station, the Jules Verne ATV, European Space Agency cargo ships, and a SpaceX rocket. The US designates Point Nemo as the Strategic Trust Territory of the Space Age, building on the precedent of the Pacific Proving Grounds. In 1947, the US secured an agreement with the UN, designating the islands of Micronesia as the Strategic Trust Territory. The US conducted nuclear testing at such sites between 1946 and 1962. Yet the directive stated that the US should "promote the economic advancement and self-sufficiency of the inhabitants, and to this end shall . . . protect the inhabitants against the loss of their lands and resources." Dubbed the "Oceanic Point of Inaccessibility," Point Nemo becomes the landfill of the Space Age. In a vortex spiral island, decommissioned satellites and other space debris are brought back from orbit. Point Nemo Pacific Cemetery doubles as a terraforming project, recycling deorbited space objects into bits of sovereignty to house climate refugees from Pacific Islands. Such low-lying coastal countries are particularly vulnerable to sea level rise, and the loss of physical territory implies they no longer meet the UN criteria for statehood. The first submerged Pacific Islands become a US Strategic Territory, not unlike the Marshall Islands, where the US buries its space trash and promotes economic advancement and right to self-determination of such planetary refugees.

Cosmopgraphy, Cosmopolitics, Cosmorama

The three geographic fictions constitute Cosmorama; they reshape the registers of humanity's relationship to the cosmos: namely, those of aesthetic knowledge, political relations, and scientific curiosity. The media devices of speculative fiction and the spectacle are tools to make explicit, as if viewed through a magnifying glass, those same politics that shape planet Earth and the extraplanetary.

First, *Cosmorama* is cosmography; it is a form of unified and aesthetic knowledge responding to the current ecological crisis as well as to the newly opened extraterrestrial spaces of human occupation. Alexander von Humboldt's influential treatise *Cosmos* had achieved such a synthesis of the geographic and the cosmographic, drawing *together* heaven and earth.[1] Humboldt's vision of the globe presents a totality of scales and sciences on Earth in an assemblage of studies in astronomy, geography, and geology. His "portrait of nature" draws together a physical geography of the Earth and of outer space—cosmic nebulae and planets. Humboldt reimagines the big picture by visualizing connections and dependencies across local, planetary, and cosmic scales. Humboldt did not choose Earth as the vantage point from which to look out into the expansive space. Instead, he took up a position in extraterrestrial space to approach Earth like a visitor from a foreign planet.[2] Cosmography is important because it uses visual agency to synthesize scientific knowledge into a holistic representation.

1 Alexander von Humboldt, *Cosmos: A Sketch of a Physical Description of the Universe* (London: George Bell and Sons, 1883).

2 Peter Sloterdijk, "On the Emergence of the World System," *In the World Interior of Capital: Towards a Philosophical Theory of Globalization* (Cambridge, UK: Polity, 2013).

Second, *Cosmorama* is cosmopolitics; the scale of extraterrestrial geography has the power to explicate politics of the cosmos, as suggested by Isabelle Stengers. Historically, the cosmos is a premature closure of a political sphere, whereby cosmopolitanism and cosmology have sought to establish power and legitimate authority through the ever-imminent promise of equal citizenship and the ventriloquizing of the heavens. Far from understanding the cosmos as "an Earth finally united, in which everyone is a citizen,"[3] Stengers, following Latour,[4] insists that "*politics* keeps the cosmos open and ever reconciling" to reach outside the human and terrestrial realm. The cosmos becomes a critical concept because it counters both anthropocentrism and geocentrism, in the old sense of Earth being the center of the universe and of man being the highest being there is. Thus, for Stengers, to engage in cosmopolitics is to *design* simultaneously the spatial and political assemblies. Cosmopolitics is the tool to build a world from a situated location where practitioners operate—a practice without the dogma of expertise. In her "Cosmopolitical Proposal," Stengers advocates for the notion of thought experiments that "'slow down' reasoning and create an opportunity to arouse a slightly different awareness of the problems and situations mobilizing us."[5] Fictions are put forth as thought experiments for science speculation. Stengers asks, "What if they were crafting tales that disclose their epoch's capacity to feel that there are other possible ways for a world to consist?"[6] Science-fiction author Ursula Le Guin observes that the metaphors of fiction are ways of seeing reality with "spaceships faster than light, the weird worlds and alien beings, the intolerable or utopian societies, the dooms envisaged, the glories imagined. . . . They are the medium to describe what in fact is going on, what people actually do and feel, how people relate to everything else in this vast sack, this belly of the universe, this unending story."[7]

And last, *Cosmorama* is the site of spectacle. Similar to earlier image machines—panorama and diorama—the cosmorama is a form of popular entertainment, a peep box or rarity show through which the spectator views a set of scenes—of distant lands and exotic subjects. The peep box or room was often decorated to resemble theatrical scenes. It put the cosmos on stage: it materialized gods, magnified minuscule creatures, pulled faraway things and placed them near. The show was accompanied by spoken recitation that explained or dramatized what was happening inside. In the New Space Age, the cosmos is once again something that needs to be collected, put together, however provisionally, and *Cosmorama* gives form to such an ephemeral common world. *Cosmorama* is a series of scenes that might be deemed inappropriate to be discussed explicitly and on Earth: a mise-en-scène that challenges the transformation of space into grounds for private profit. *Cosmorama* hacks the popularized spectacle-machine to render sensible the uncanny underbelly of both the New Space Age and the event of the Anthropocene. In doing so, it recenters the political in technological and environmental narratives. Its most obscene tactical work might be to remind us that that terrestrial politics are also and always a politics of the cosmos.

Cosmorama was commissioned for the 2018 Venice Architecture Biennale U.S. Pavilion "Dimensions of Citizenship," curated by Niall Atkinson, Ann Lui, and Mimi Zeiger.

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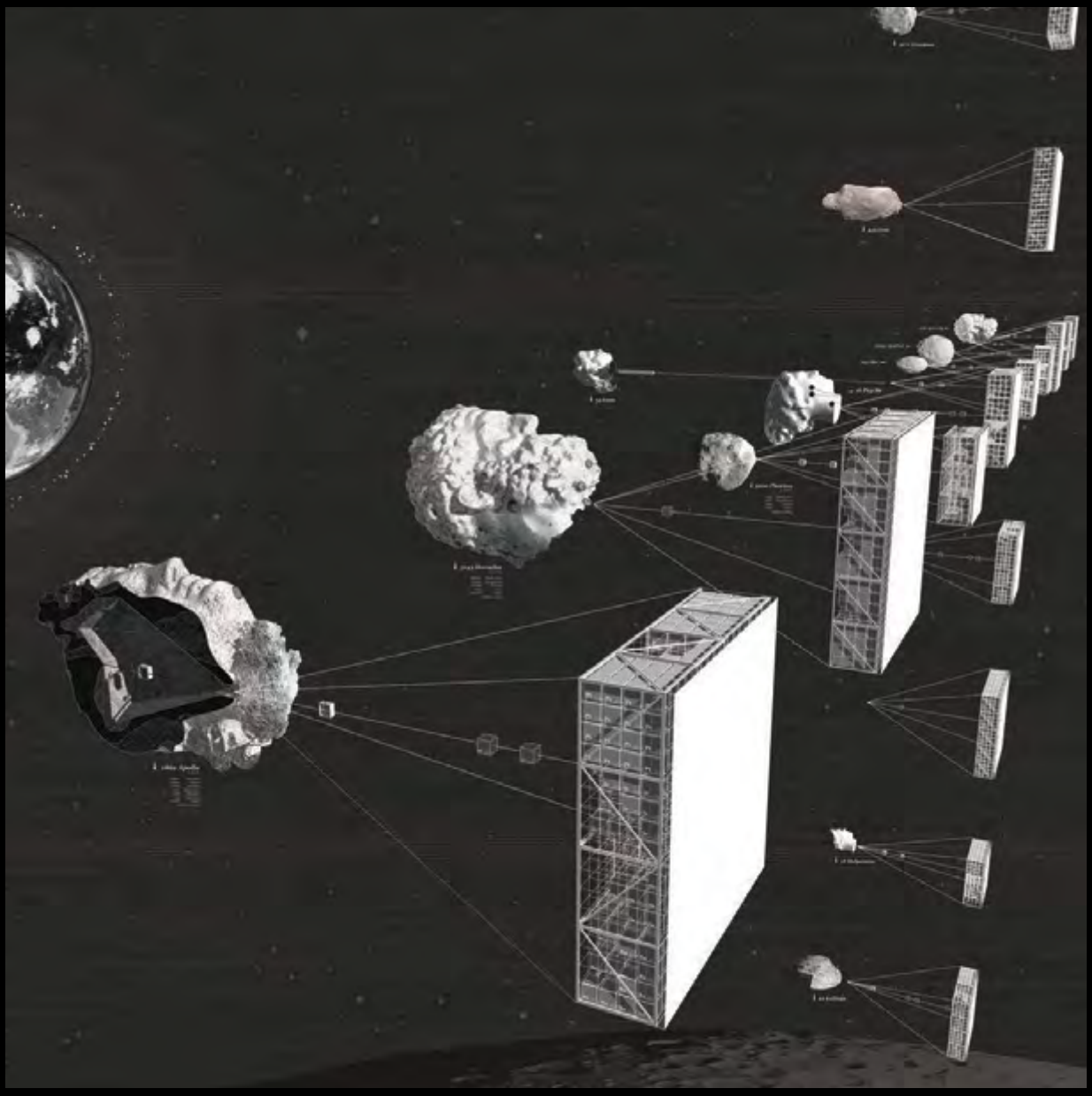
Isabelle Stengers, "The Cosmopolitical Proposal," *Making Things Public*, ed. B. Latour and P. Weibel (Cambridge, MA: MIT Press, 2005), 994–1003.

4
Bruno Latour, "Whose Cosmos, Which Cosmopolitics? Comments on the Peace Terms of Ulrich Beck," *Common Knowledge* 10, no.3 (2004), 450–462.

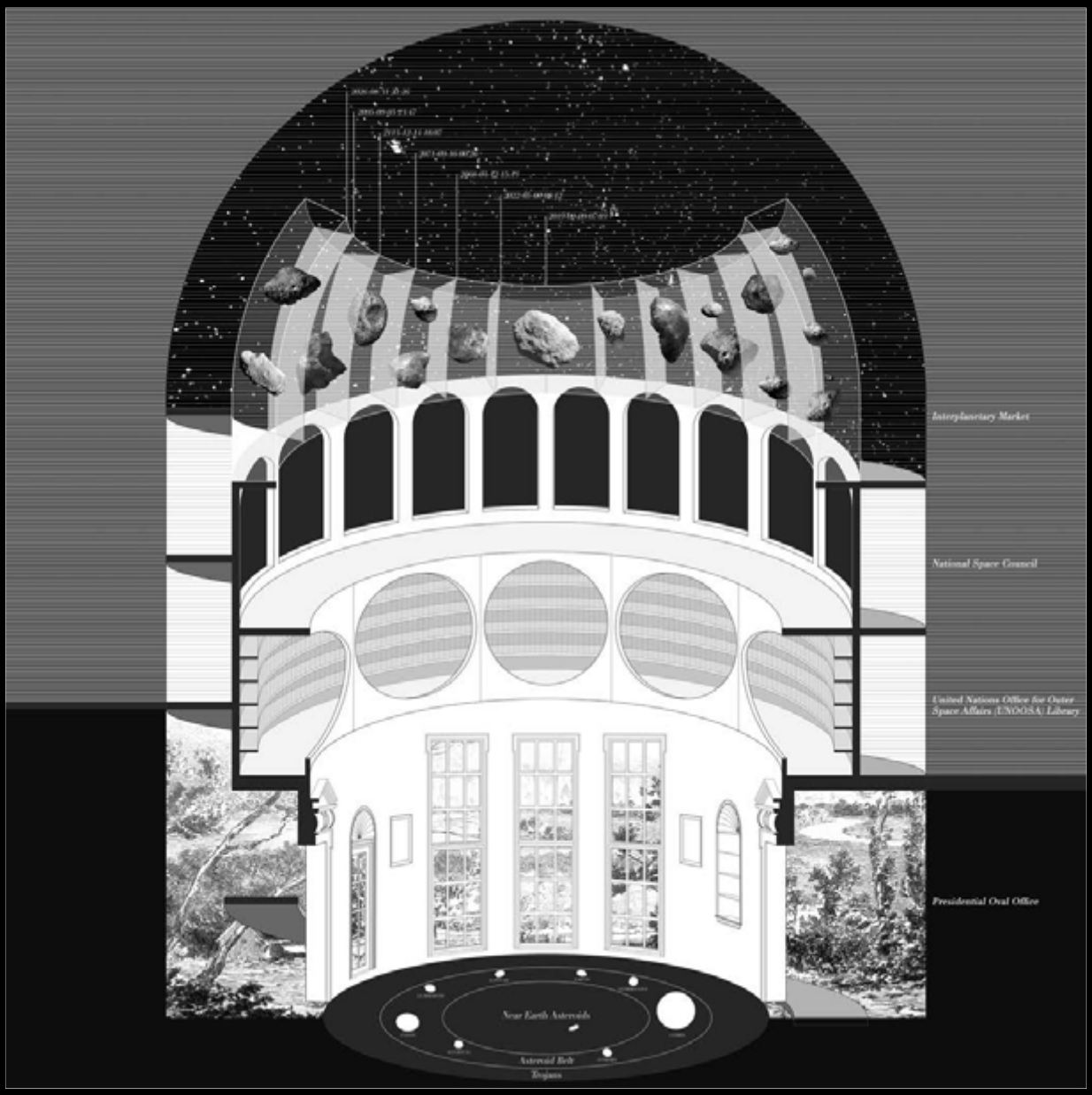
5
Isabelle Stengers, "The Cosmopolitical Proposal," *Making Things Public*, ed. B. Latour and P. Weibel (Cambridge, MA: MIT Press, 2005), 994–1003.

6
Isabelle Stengers, *Gaia, the Urgency to Think (and Feel)*, 2014, https://osmilnomesdegaia.files.wordpress.com/2014/11/isabelle-stengers.pdf.

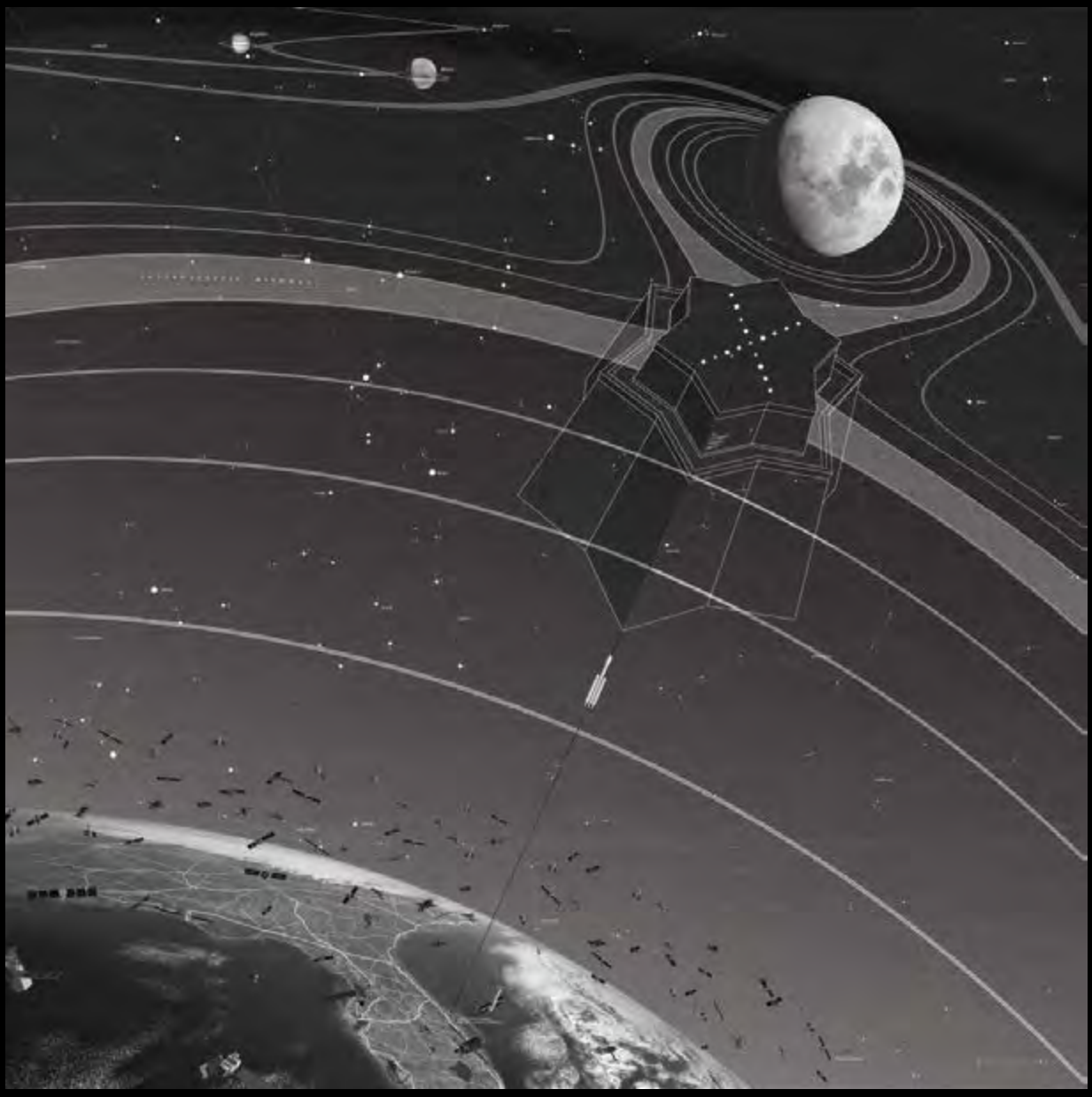
7
Ursula K. Le Guin, *Dancing at the Edge of the World: Thoughts on Words, Women, Places* (New York: Grove Press, 1997), 170.



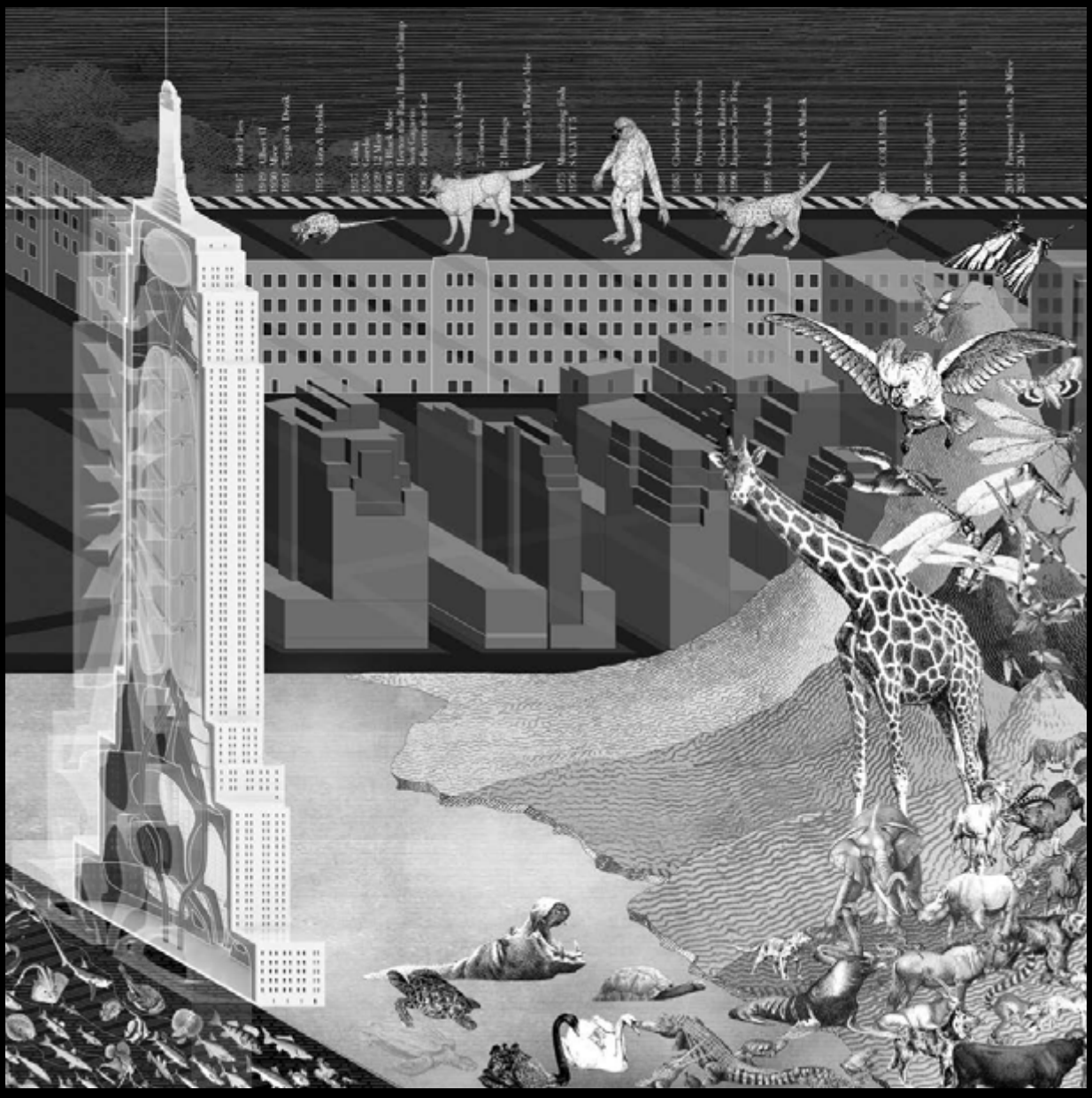
Mining the Sky; Cosmic Rushmore
The exploitation of raw materials from asteroids carves out a constellation of large-scale sculptures of the Gods of private interests



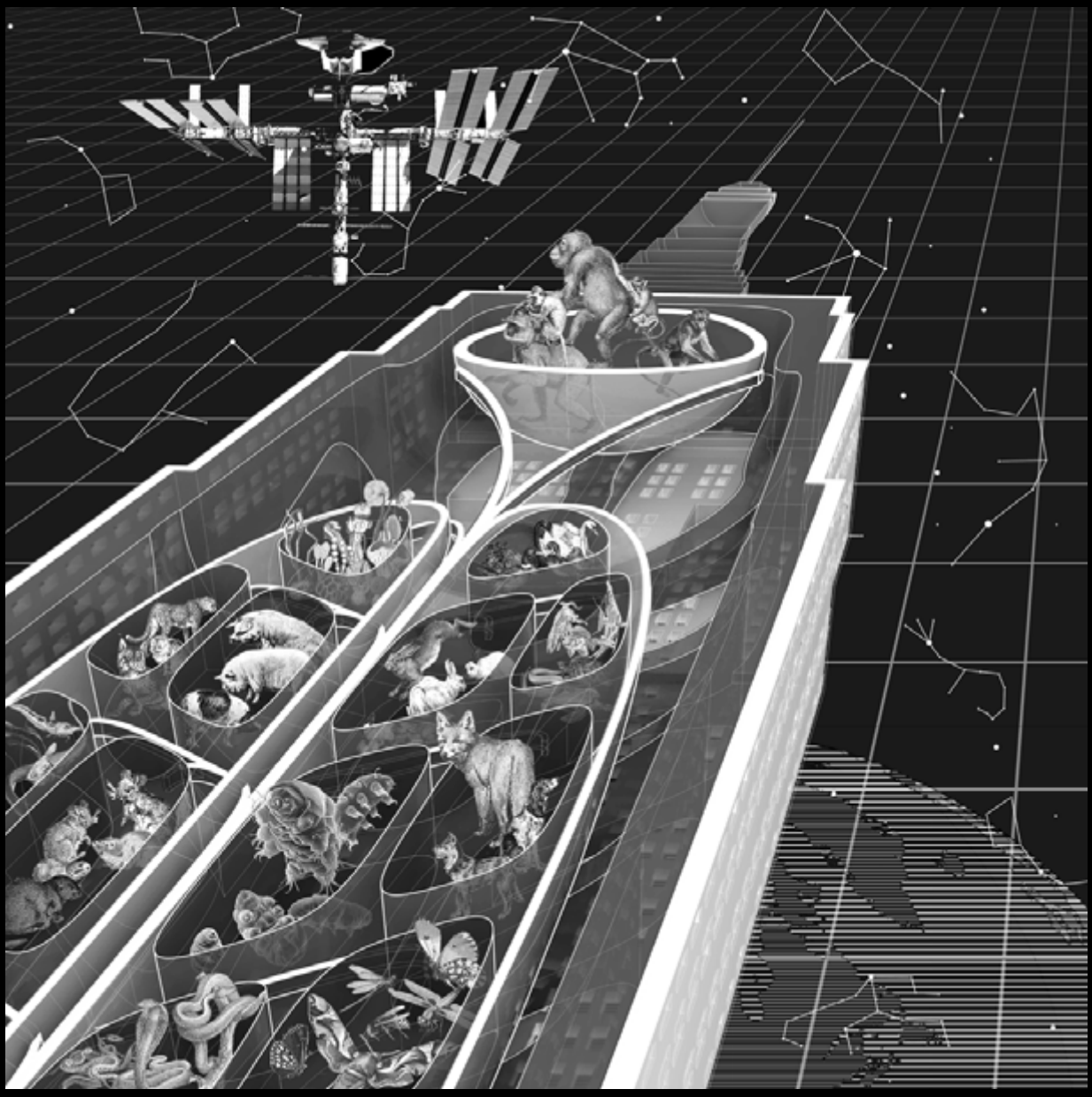
Mining the Sky; The Architecture of the New Space Age
Conceptual section of the New Space Age making visible the intertwined and conflicting interests of United States, United Nations, and space industry and investors.



Mining the Sky; Lagrange Point Fortification
The mission partnership between NASA and the U.S. Air Force maintains security of rare earth storage at Lagrange points, places in space where celestial forces essentially cancel out gravity.

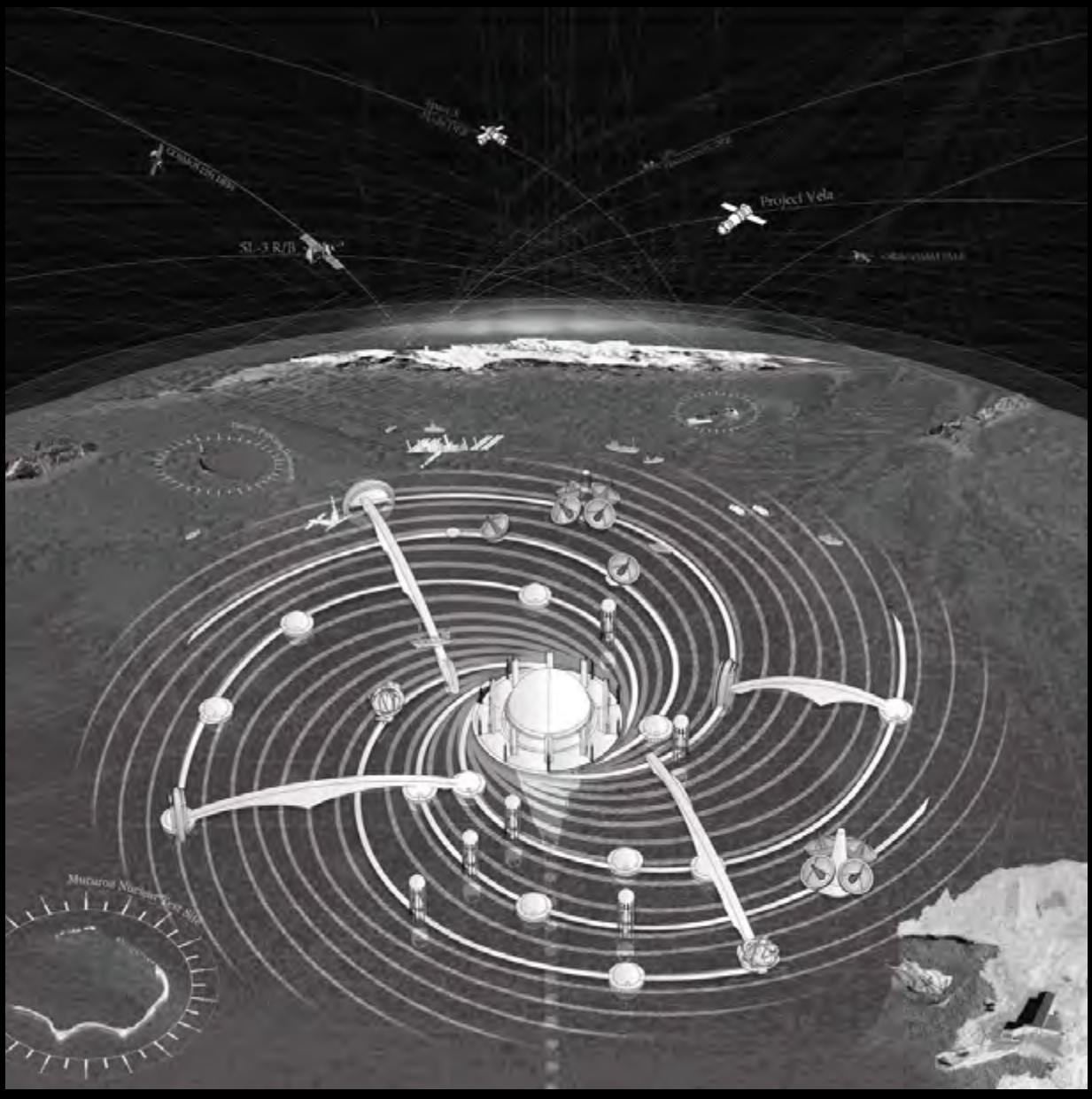


Planetary Ark; Empire State Ark
The animals go into the Empire State Ark. The collection of animals includes those launched into space on scientific missions and other species threatened by the sixth mass extinction in Earth's history.



Planetary Ark; (All Aboard) the Architekton
The multi-species architekton embarks on its cosmic journey.

Planetary Ark; 10000 Years Later Between Venus and Earth
The descendent of the Ark's population returns to Earth.



Pacific Cemetery; Point Nemo
Decommissioned satellites and other space debris are brought back from orbit and recycled at Point Nemo, also dubbed the Oceanic Point of Inaccessibility.

Pacific Cemetery; Space Junk Island
The debris of the New Space Age at Point Nemo forms a vortex cemetery, with de-orbited spacecraft such as the Soviet-era MIR space station, the Jules Verne ATV and SpaceX rockets.

Pacific Cemetery; Pacific Refuge
The vestiges of space objects are recycled into bits of sovereignty
to house climate refugees from Pacific Islands.

Geoglyphs to Live By

→

This text is based on research by Lukáš Likavčan and his colleague and co-author Paul Heinicker (Institute for Media and Arts, University of Potsdam). The more elaborate results of the study can be found in their chapter 'Planetary Diagrams: Towards an Autographic Theory of Climate Emergency', featured in an upcoming volume *Photography Off the Scale*, (eds.) Jussi Parikka, Tomáš Dvořák, Edinburgh University Press, 2020.

Lukáš Likavčan will present a lecture at the Sonic Acts Academy conference on 23 February.

Lukáš Likavčan

In the autumn of 2019, a peculiar news story circulated on social media about a group of Japanese scientists that used an artificial neural network to spot previously unknown geoglyphs* in the Peruvian Nazca Desert. Pattern-seeking mammals were joined in their efforts by a pattern-seeking machine, increasing chances to find past traces of pattern-making mammals belonging to the same biological species. The patterns being detected here are on the threshold of human visibility, and they become readable as distinct images by using a technical armature. While the most of the Nazca geoglyphs have been long visible from surrounding mountains, or thanks to aerial flights, the case of the recent additions to the corpus of these monumental drawings embodies not just an augmentation, but an automation of vision – the labour of identifying the pattern is delegated to a machine.

Similar observations have been made in Wales, where, in 2018, a massive summer heatwave revealed traces of past human settlements in the form of cropmarks, produced thanks to different compositions of soil on which the vegetation grows – the rocky, drier segments, hiding sedimented remnants of walls, turned less hydrated plants yellow, forming a distinct pattern copying a shape of the former houses or fortifications. Contrary to the preceding example, these accidental geoglyphs are not revealed by AI, but by another more-than-human agency – an overheating planetary ecosystem responding to an increase in CO_2 emissions with the rise of temperatures and previously unseen weather patterns. It is the medium of the changing climate itself that suddenly makes these archaeological traces visible.

What do these two cases have in common? As the argument goes, both can be interpreted as *diagrams*. A diagram might be a systematic visualisation of some process, such as thinking, digestion, atmospheric phenomenon or geological change. However, as Ryan Bishop reminded me recently, the diagram might also be a plan, a sort of normative gesture – it can format, prescribe, direct attention or produce a habit. So, what do the geoglyphs of Nazca Desert or cropmarks in Wales prescribe, if they prescribe at all?

First, it seems that both images – Nazca geoglyphs as well as Wales cropmarks – have a position within some process rather than simply representing it. For this reason, we might say they function as *process-spaces*. Every geoglyph on Nazca plane is an imprint of cultural activity of a past human community, and its purpose is not to depict something, but to *do* something. We can interpret them as sites of religious rituals or of astronomic observation, or we can leave the interpretation of their cultural purpose open, but in any case, they are primarily *tools* used to mediate some relation to spiritual entities or to enable a knowledge of celestial bodies (to give a few examples). The cropmarks are also imprints of an activity, in this case, the one of changing climate; human architectural traces are mobilised as a diagram of climate emergency.

Second, these images also function as *memory-spaces*. In both cases, some natural or cultural process is encoded into the same, earthly substrate. We face here two different memories, which – in the context of the Anthropocene – undergo their slow-motion collision, as if two tectonic plates are folding into each other. The dyschronia of human history and geological time is irreversibly erased, privileging the exterior temporal scales of the geological over the interior temporalities of the cultural. The planet narrates the climate change as it is unfolding, leaving traces around us and in us – a cropmark on a field, a swarm of medusas in an ocean, a bleached coral reef, an agricultural land turning to desert: each of them being an index of global heating. Even our lungs become – metaphorically speaking – photographic imprints of the polluted cities in which we live.

Here, we can finally see that a diagrammatic role of these visual traces also has its third functional dimension – that of *instruction-spaces*. Nazca geoglyphs articulate a tendency, an inclination to some activity; they encode and subsequently prompt a cultural habit or at least that was the case in the old empire of Inca people. Does the same hold for the cropmarks in Wales? Or is there a way to reframe them as having such an impact? To be sure, the cropmarks are broadcasting a plan of imminent destruction, but perhaps they also hide a potential plan for future redemption, since by encoding the climate catastrophe, they might prompt a response to it. In other words, these visual traits of climate emergency might be capable of inducing or of instituting a cultural habit.

My suggestion here is to read climate emergency as a more-than-human geoglyphic activity which is producing traces that can be rendered as diagrams operating in all the three dimensions: as process-spaces, memory-spaces, and instruction-spaces. Crucially, identifying instructions that these geoglyphs yield is conditioned by our ability to read them not as simple

The Nazca Lines are a group of large geoglyphs formed in the soil of the Nazca Desert in southern Peru. They were created between 500 BCE and 500 CE. This is a geoglyph of the hummingbird. Photo by Diego Delso, 2015, Wikipedia, CC BY-SA 4.0.

AI helps discover new geoglyph in the Nazca Lines – a human figure about five metres tall. Photo © Yamagata University/IBM Japan, 2019.

U.K. heatwave and drought reveal prehistoric ceremonial landscape near Eynsham, Oxfordshire. Photo © Historic England, 2018.

The Himawari-8 satellite's view of the Australian bushfires and smoke clouds on 2 January 2020. Image by RAMMB/CIRA/CSU.

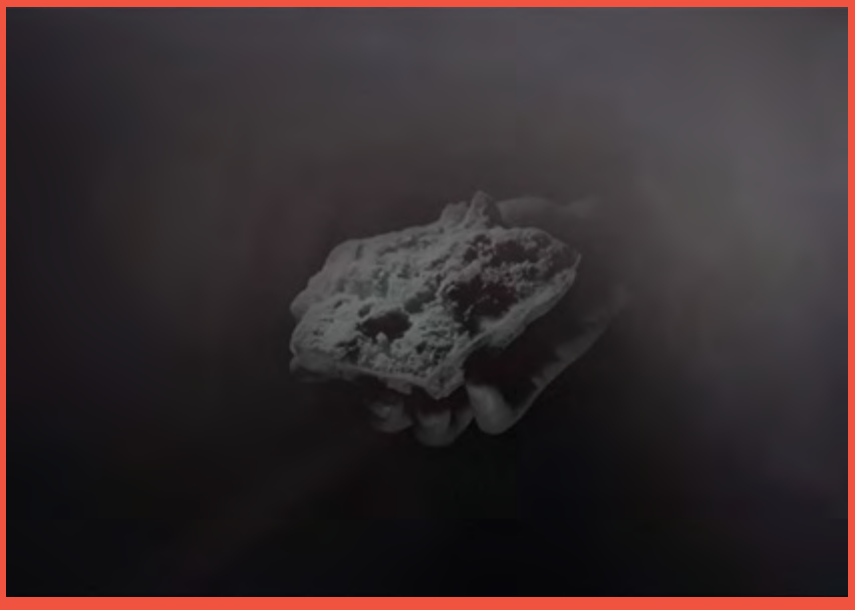
representations of climate emergency, i.e. as some surrogates or proxies of the process, but as spaces where this process itself unfolds. The message is very banal: Climate change is never out there; it is always right before our eyes. The cloud of smoke over the Australian bush is not a representation of the catastrophe – it *is* the catastrophe. Following the Peircean triad of icon-index-symbol, these are indices produced by the planet itself. Some pictures are disastrous; some pictures *are* disasters.

Thus, it seems that climate emergency is putting a pressure on our current understanding of visual cultures as the realm of indirect representations. When it comes to visible traces of ecological disasters, these traces are their direct imprints, and they are encodings of the process into the medium of planet Earth. They announce an aesthetic regime of the surface, claiming an immediate authority to inform our ways of plotting the escape from the Anthropocene. To identify instructions hidden in these diagrams of climate emergency, we might need to take their visuality at its face value, no matter whether it will be deemed as naïve or brutal. Here comes also an urgency to reassess the role of humans as privileged observers, when the traces of the ecological emergency remain hidden: there might be artificial, technical agencies better suited to detect traces of the distributed climate disaster, as well as to translate these traces into an adequate prescription, thus somehow extending the scope of machine-readable geoglyphs outside of the Nazca Plate.

Understanding the geoglyphic nature of climate emergency's visual regime might finally help us to understand how the planet invites us to reconsider our relation to the assumed duality between the global and the local. So far, we have mainly treated the local as an opposite to the global, resulting in a (geo)political impasse when these scales are treated as hardly translatable (in the better case) or mutually exclusive (in the worst case). However, in the coming framework of the Planetary – as elaborated by scholars such as Jennifer Gabrys, Gayatri Chakravorty Spivak, William Connolly or Benjamin Bratton – the hope is that the local becomes just a clumsy term to express how our immediate surroundings can be treated as an index of the Planetary. No place on Earth has a privileged position here. As a fractal image, every place hides the microcosm of the planetary relations; each locality is a garden within a garden, indexing the violence done to the planet.

* A geoglyph is a large design or motif (generally longer than four metres) produced on the ground and typically formed by clastic rocks or similarly durable elements of the landscape, such as stones, stone fragments, live trees, gravel or earth.

Healing and Killing in the Underground



Stills from *The Magic Mountain* (2020) by Eitan Efrat and Daniel Mann.

Daniel Mann will present a lecture at the Sonic Acts Academy conference on 22 February.

Daniel Mann

'Nature will never be the possession of any single individual. In the form of property it becomes a terrible poison, which destroys rest, excites the ruinous desire of drawing everything within the breach of its possessor, and carries with it a train of wild passions and endless sorrows.'

Novalis, *Heinrich von Ofterdingen*, 1802

An unlikely incident was documented at a Nazified goldmine in 1938. Polish prisoners of war, who were forced into labour within goldmines in the Gastein Valley, Austria, reported on odd bodily sensations deep within the mineshafts. After weeks of exposure to the underground tunnels' heat and humidity, the prisoners – so tells the tale – were miraculously ridden of their rheumatic pains. While the lifespan of a war prisoner at a Nazi underground facility was notoriously short, the darkness below and the immense heat had allegedly shown the opposite results; the broken bodies of men who were relegated to subhuman conditions were slowly regaining their good health. Austrian physicians from the University of Innsbruck were quick to respond to the eerie stories told by the incarcerated men about sensations, renewal, and even physical euphoria – all induced through the exposure to the underground geological strata. The scientists discovered that this particular mineshaft inverted the common medical rationale, making the subterranean space a source of rare energy. The stone beneath the Austrian Alps emanated a strange and invisible radiation that permeated human skin to enter the blood cycles of the body. Radon, the scientists discovered, was making its way from the depths of the underground to saturate the caverns of the old goldmine in Gastein.

The old mineshaft connects the spectacle of the frozen Alps above with the heat and darkness below, which is consumed through the pores of the skin. This duality invokes German Romantics for whom upper and lower worlds mirrored each other, reflected one in the other, while secretly shaping a language of patterns that binds the two worlds together. The romantically inclined geologists of the eighteenth century believed that the mineral world paralleled our own. Such metaphysics fuelled the booming mining industry, nourishing the belief that the soil underneath the pristine landscapes of the Alps is a vast source of mystical substances. 'Gold appeared as solidified light raised from a subterranean world,' writes the historian Esther Leslie.

Gold was once a lucrative natural resource in the Gastein Valley. The Gastein Gold Rush, as it is called by local historians, was part of the wider infatuation with the subterrain as a new source of wealth and imperial growth. The search for gold enriched the perception of nature, not merely as a static backdrop for human life, but as a vital realm that hides within it rare materials and chemical substances. The perception of the landscape as a living entity was inspired by a Romantic philosophy of nature, which perceived nature as a dynamic being in flux. Through experiment with chemistry, the presence of certain substances, which remain invisible to the human eye, were gradually revealed, and a new realm opened up with the introduction of new visualising technologies in the late nineteenth century. The invisible realm of gases was suddenly added as another sensory layer – replacing the concrete materially of gold.

The miraculous goldmine cuts through the stone to bond the exterior landscapes to the subterrain, both mobilised by the Third Reich for similar ends. Outside, the Alps signified the purified realm of unspoiled nature. But within, the earth was there to be spoiled and pillaged. Peering into the mass volume below the Alps means tying together these seemingly contradictory human relations to the environment: the desire to naturalise and extract, to domesticate and alienate, to occupy and to harness the sublime to ideology and realpolitik. The horizontal lines of territorial conquest rotate 90 degrees to be actualised by the vertical desire to dig into the soil and extract the remaining gold from the earth. As an incomplete project of expansion, the Third Reich's excavation into the subsoil of Europe hints to the potential of colonising the vast and boundless spaces beneath the territorial surfaces.

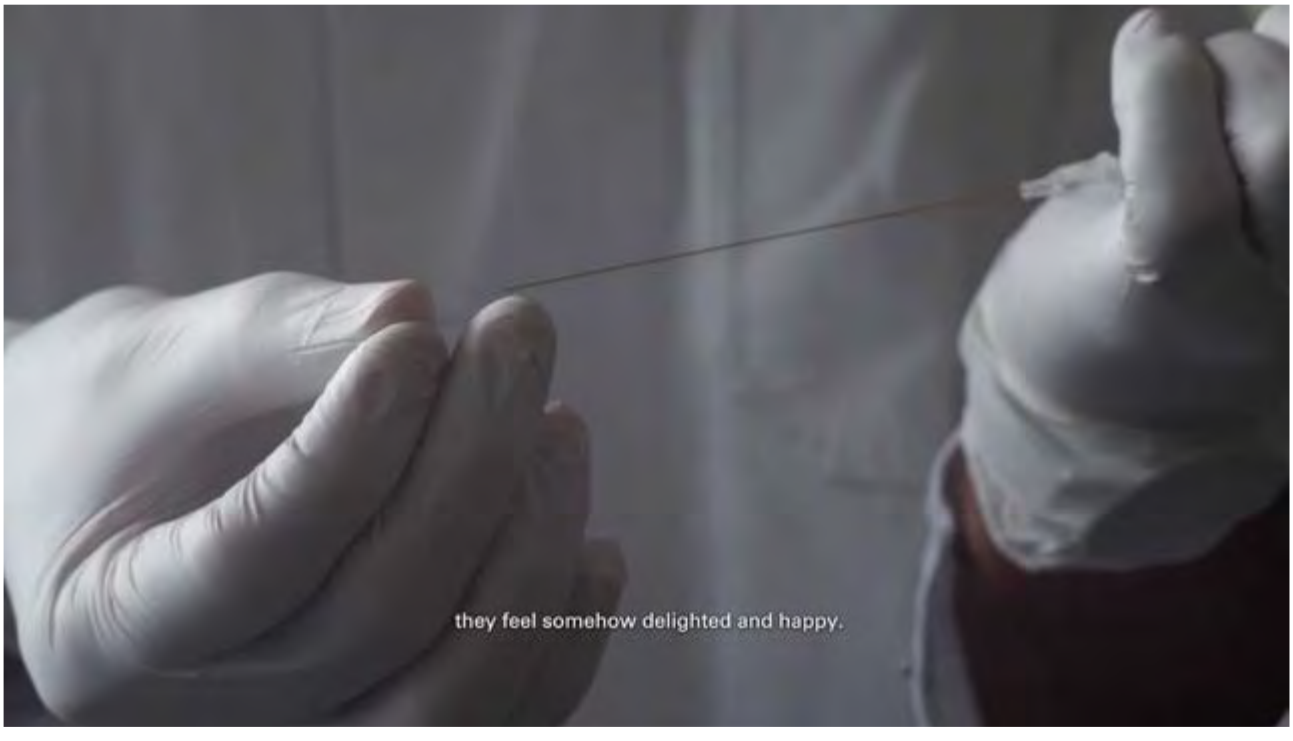
The leftovers of mines and tunnels underneath the Alps are symptoms of modernity's insatiable hunger for resource extraction dormant in capitalism at large. Indeed, while the saturation of radon underground was heralded as an extraordinary cure, its discovery ties it to the violence of territorial occupation and exploitation of natural resources. Well-being and colonisation are joined together as the two sides of *Lebensraum*. Coined by the German geographer Friedrich Ratzel, *Lebensraum* implied a theory according to which the development of all species, including humans, is primarily determined by their adaptation to geographic and geological circumstances. Species that successfully adapted to one location, he thought, would spread naturally to others. Ratzel went on to argue that to remain healthy, species must continually expand the amount of space they occupy, for migration is a natural feature of all species, an expression of their need for living space. This process also applied to humans, who operate collectively in the form of 'peoples', or *Völker*, with one *Völk* effectively conquering another. However, according to Ratzel, such expansion could be successful only if the conquering nation 'colonised' the new territory. Hitler mobilised the term *Lebensraum* to address both a desired comfort in life for the German people, which is associated with leisure and domestic well-being, and a colonial violence unleashed to expand the limited space and natural resources of Europe. From his prison cell in 1926, Hitler wrote of the Alps: 'Nature knows no political boundaries, she places life forms on this globe and then sets them free in a play of power.'

Through the notion of *Lebensraum*, the idea of landscape cracks-open to absorb both its cultural meanings as a representation and its darker underbelly of colonial expansion. The first is mediated through the visual spectacle of the mountain, and the second is hidden beneath, within the geological strata, where borrowing took place and where radon was discovered. Yet the Alpine vistas are implicitly haunted by their invisible underbelly, the extractive desire, which often remains outside of representation. The notion of *Lebensraum* and its inherent duality of well-being and territorial expansion into the earth challenges the dominance of vision in defining a landscape as an image. The mineshaft in Austria consolidates the very notion of *Lebensraum* by weaving together health with the pillaging the earth. Historian Anthony Snyder claims the word *Lebensraum* – which literally translates as 'living room' – holds together the well-being of individuals who find solace and comfort with the expansionist's desire to secure land in a gradually shrinking world, which faces the rapid depletion of natural resources. While gold has been long exhausted, radon is its reincarnation.

Once the Second World War had ended, the goldmine in Gastein was repurposed into a therapeutic facility. Patients with rheumatic diseases were invited to enter into the former goldmine. Naked, they alighted a small train that took them deep into the mine, where they would spend an hour in the humid atmosphere and absorb the radon. The Healing Tunnel, or *Heilstollen*, has since been operating as a unique treatment facility, which attracts patients who arrive annually to combine radon therapy with leisure time within the pristine

Alpine landscape. Yet the sources of the radioactive element remain uncertain, adding to the general obscurity of the ecology beneath the mountain.

In the 1980s, a global controversy erupted over radon's healing qualities. By the decade's end, the United States introduced the Radiation Exposure Compensation Act, which enabled veterans who were exposed to nuclear warfare and miners to claim compensation after contracting cancer as a direct result of uranium extraction or nuclear testing during the Cold War. This act increased awareness of the potentially hazardous effects of radon. Today, visitors who once occupied the lucrative hotels in Bad Gastein no longer arrive and the sanatorium has come under increased scrutiny. As a kind of underground gas chamber, the sanatorium is a reminder of the necropolitical force that promoted the healing capacities of radon. To this day, the radiation that can heal the human body can easily tip over to become toxic and deadly. Novalis's warning echoes: 'Nature will never be the possession of any single individual. In the form of property it becomes a terrible poison.'



Conditions 2020

→ pp. 63–67

Anton Kats (MAEKUR)
This essay about Narrowcast House was first published in *aneducation – documenta 14*, (eds.) Sepake Angiama, Clare Butcher, Alkisti Efthymiou, Anton Kats, Arnisa Zeqo, Berlin: Archive Books, 2018.

→ p. 68

Eva Rowson (MÆKUR)
Notes written by Maia Urstad in Berlin while listening to *Hospitality, Secrecy and Other Useless Movements* – a live and unrecorded radio show hosted by Eva Rowson, Laurence Rassel, and Terre Thaemlitz. Broadcast from Bergen Kunsthall via Norwegian feminist radio station radiOrakel on 9,3MHz in the Oslo area and online at radiorakel.no, 16 October 2018.

→ p. 69

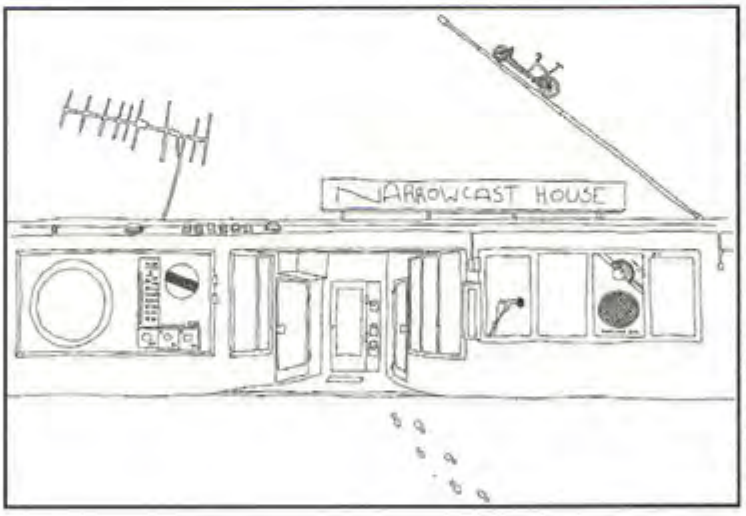
Maia Urstad (MÆKUR)
Audio sketches/memory sheets by Maia Urstad on the radio piece *Zeit Ton Passagen* (Time Tone Passages), commissioned by Deutschland Funk, 2018. The sonic material was collected from the Deutsche Welle archive during a residency at Bonnhoeren, Germany. Excerpts of the audio material can be found on the MÆKUR's 2020 vinyl record and digital release, *Conditions: 1218–0719*.

MÆKUR's performance is scheduled for Sunday 23 February. The piece is a co-production of Sonic Acts with Bergen Kunsthall & Lighthouse as part of Re-Imagine Europe, co-funded by the Creative Europe programme of the European Union.

MÆKUR

NARROWCAST HOUSE Nn

Narrowcast House is an open radio studio and a listening space I initiated within documenta 14's aneducation program.[1] As you enter Kassel from any direction by car, by bike, or on foot, at some point you are greeted by a sign that reads "documenta-stadt Kassel" (documenta-city Kassel). The hyphenated term that designates this small city in the middle of Germany underscores its symbiotic relationship with the quinquennial art event. Over the last sixty years, the porous metropolis, largely destroyed during the Second World War, has become a modern town with decreasing property vacancies and increasing property value. But if we exchange the linguistic gesture, a hyphen bridging Kassel and documenta, for the mathematical, a minus sign separating them, the hyphen becomes ambiguous and calls for a relationship to negotiate, not take for granted.



Anton Kats, Narrowcast House Open Radio Studio, Gottschalkstraße 36, Kassel, 2017, sketch

Pulling itself in different directions, during the five-year hyphen, a dissonance is created – one that was often acknowledged in conversations between the aneducation program and local artists, residents, initiatives, and organizations. To investigate this increasingly complex relationship between the institution of which aneducation is part, and Kassel's cultural, activist, intellectual, and musical scenes (among many others), Narrowcast House sought to launch an open-ended enquiry. It is a hybrid space and method for exchange

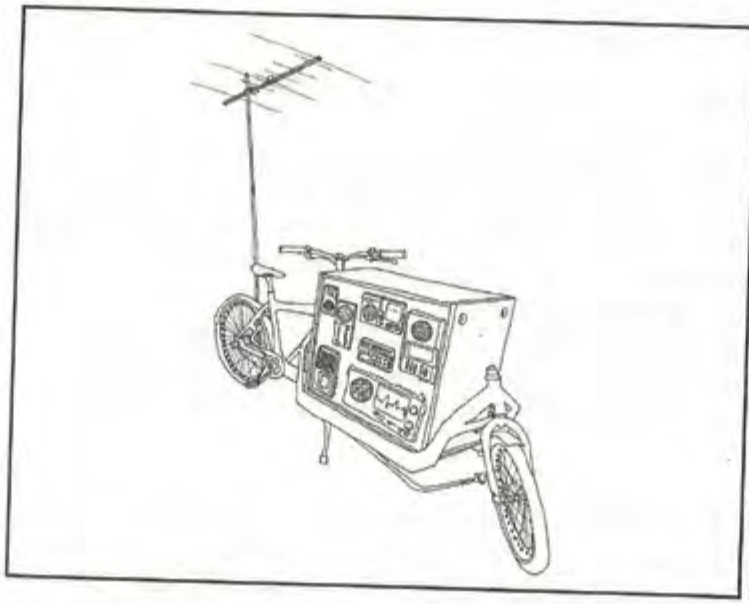
and co-existence during and between documentas: a pirate radio studio and an open atelier; a workshop and an event space; and an exhibition venue that attempts to establish a continuous, proactive transmission between documenta and Kassel.

Radio Narrowcast

Radio narrowcast, as opposed to radio broadcast, does not rely on one-to-many transmission. It is a site-specific and collaborative intervention derived from listening to and prioritizing neighborhood, group, or individual concerns to bring together practical questions of access and infrastructure with art and knowledge production. This understanding of narrowcasts began during my artist residency at the Serpentine Galleries Edgware Road Project in London in collaboration with the students of King Solomon Academy and local residents of the city's Edgware Road neighborhood. They have since been used in farming communities in Jamaica, by elderly in the UK, and in neighborhoods across the world. Narrowcasts question the functionality of the studio as a space of listening, bringing it "elsewhere" to open it up fluidly exchanging listener and broadcaster roles. While narrowcasts can include radio technology, they do not necessarily need it. In this sense narrowcasts prioritize listening in its concrete dimension with the listener not only discovering but also materializing what's heard. This shifts the attention from radio transmission as technology or radio-specific content towards the questions of process, agency, and intention behind the work. Who processes what for whom? What is the process? Why and to what end is it being processed?

So how do these questions resonate between the city and the event? Concerns over agency were widely expressed during documenta 14, documenta-city Kassel, and in the Nordstadt area of Kassel in particular. Local cultural initiatives, networks, committees, art practitioners, students, workers, and others

described the (often decades-long) experience of documenta happening "to" them as opposed to "with" or "for" them. Whether one fully supports, opposes, or merely tolerates documenta, these exchanges highlight the contradictory condition of Kassel residents as documenta's hosts and simultaneous outsiders in their own city. This is of course not new, with the proliferation of biennials and other events. Large-scale institutional maneuvers go hand in hand with larger questions of human rights and desires, housing, personal and collective needs, and aspirations often thwarted by injustice and inefficiency.



Anton Kats, Radio Sound System, 2017, sketch

In this context the project focused on the continuity of complex social events prior to their public representation. One example is a series of working sessions and meetings of House of Commons, local artists, initiatives, and cultural practitioners. One could tune into House of Commons sessions at Narrowcast House via radio or join in person to work, collaborate or visit. Practically asking how documenta and the city listen to each other, some of these sessions merged into a series of public events at the Narrowcast House provoking new collaborations and unexpected outcomes like the founding of the cultural initiative Meeting Democracy.[2]

The dialogue with local artists and initiatives affiliated with the House of Commons began in October 2016, and in June 2017, Narrowcast House opened its doors with host and producer Aiko Okamoto and artist Josephine Lee. Returning to the hyphen, Narrowcast House placed itself somewhere between a learning/working atelier and an event space, inviting residents to become part of documenta 14 by proposing an event, interaction, or by just coming to attend and listen. Over sixty radio narrowcasts took place during documenta, from one-off events to a weeklong residency.[3] The house also extended itself by developing a mobile radio sound system, which could intervene in public spaces around Kassel and make pop-up visits to hosting organizations.

Towards a Concrete Dimension of Listening

With daily unedited transmissions aired on 100FM the radio was both a spatial discipline and a site-specific social practice dependent on listening to produce and organize useful, functional, and sustainable spaces. Narrowcasting is a neighborhood action and enquiry that questions radio as a strategy, platform for social interaction, and social construct with the power to transmit and amplify – and not to the exclusion of its artistic form.

This methodology is built on solidarity, mutual support, and action and points towards a concrete way to listen and a bottom-up approach to structural change, in this particular case, in the relationship between Kassel and documenta. On arriving in the United States (1938–41), philosopher and sociologist Theodor Adorno wrote on radio as a tool for social and political critique that allows for denouncing, countering, and preventing extreme forms of discrimination and oppression such as fascism.[4] In addition to the political implications of the Second World War, Adorno elaborates on everyday fascism secreted in standardization and bureaucratization; he argues that a strong education system depends on preventing the ascendance of bureaucracy.[5]

NARROWCAST HOUSE Nn

Concerned with collective and individual learning, radio narrowcasting can be considered as embracing this idea behind education, hindering bureaucracy while being self-critical.[6] Proposals like Narrowcast House enable identification and response to at once practical and theoretical, and empirical and conceptual problems, pointing towards a future-oriented perspective echoing a concrete listening practice.

Narrowcast House took up accessible mobile and stationary radio sound systems, and institutional and individual modes of listening and transmitting. The functionality and purposefulness of the project elicited statements from Kassel residents like: "We have not had [a project] like this before." Yet, with a certain degree of patience, Kassel has already had "it" in so many ways over the last seventy years. Here, the questions of urgency, privilege, and necessity need to take center stage in order to be answered in time, and practically.

AK

1 Like A-Letheia, Narrowcast House is a project developed by an artist employed in the aneducation department. See artist statement in first footnote to "A-Letheia" entry.
2 See http://meetingdemocracy.org.
3 Contributions included: Bürger_innen Büro (Citizen Bureau) and Meeting Democracy by Beat Sandkühler, Flora Niess, and Dr. Wolfgang Sheffler; city political initiatives like Edible City and the TRA.FO House Initiative co-driven by Karsten Winnemuth, Upcycling Workshop, and Seeds Change Market; DJ, sound, and radio performances; reading groups; regular plenums of protest and squatting initiatives; over seventy school workshops *Place of 100 Places: Kassel, the documenta City* with school students and young refugees in the surrounding region of Hessen; artistic interventions like Oliver Leuer's performance addressing ten years of the arms industry in Kassel and the presentation of *Images of Revolution and Resistance in both Rojava and the Kurdish region of Turkey* by Leserkreis Initiative; planting of good thoughts with Angelika Folwarczny; parties and Radioke (radio karaoke) evenings; presentations and collaborations of local and international artists and initiatives like female:pressure, Soshenko 33 from Kiev, TOKONOMA in Kassel, and many more.
4 See Theodor Adorno, *Current of Music* (Frankfurt am Main: Surkamp, 2006), pp. 296–378.
5 See Theodor Adorno, *Education After Auschwitz, Canadian International Youth Letter* (2010), pp. 1–13.
6 Ibid.

Laurence Russel
Tony Thaemlitz

The gap between zeroes and ones 0 1
The breathing that was happening between words & sentences

For me, this was the connection between technology and Gender somehow.

Eva ... about the need for spaces to be secret, to be protected, to be not always visible online.. accessible — which now, working for an institution, th,

Eva (..) how do you protect those spaces to be yourself, and to protect the word / world that you're making, and have control over it, (...)

Berg Assembly laurence did a talk about Radical Hospitality (..) part of my own practice

② What worked / what failed.. / I think we could learn a lot more,
Id we thought about failure more than success..

① TRYING TO RUN AN INSTITUTION FROM A POINT OF HOSPITALITY

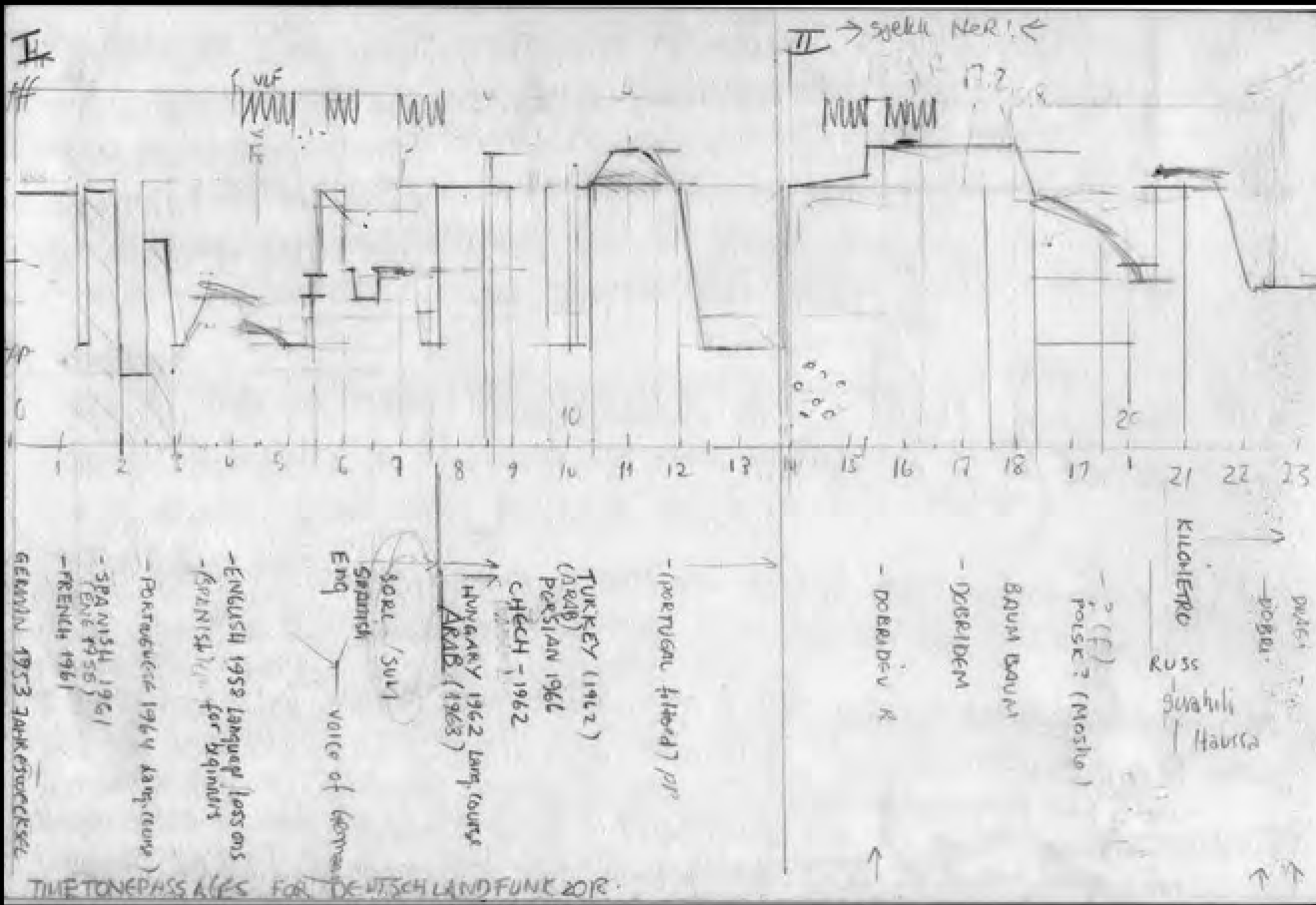
How to be inclusive, accessible to audience,

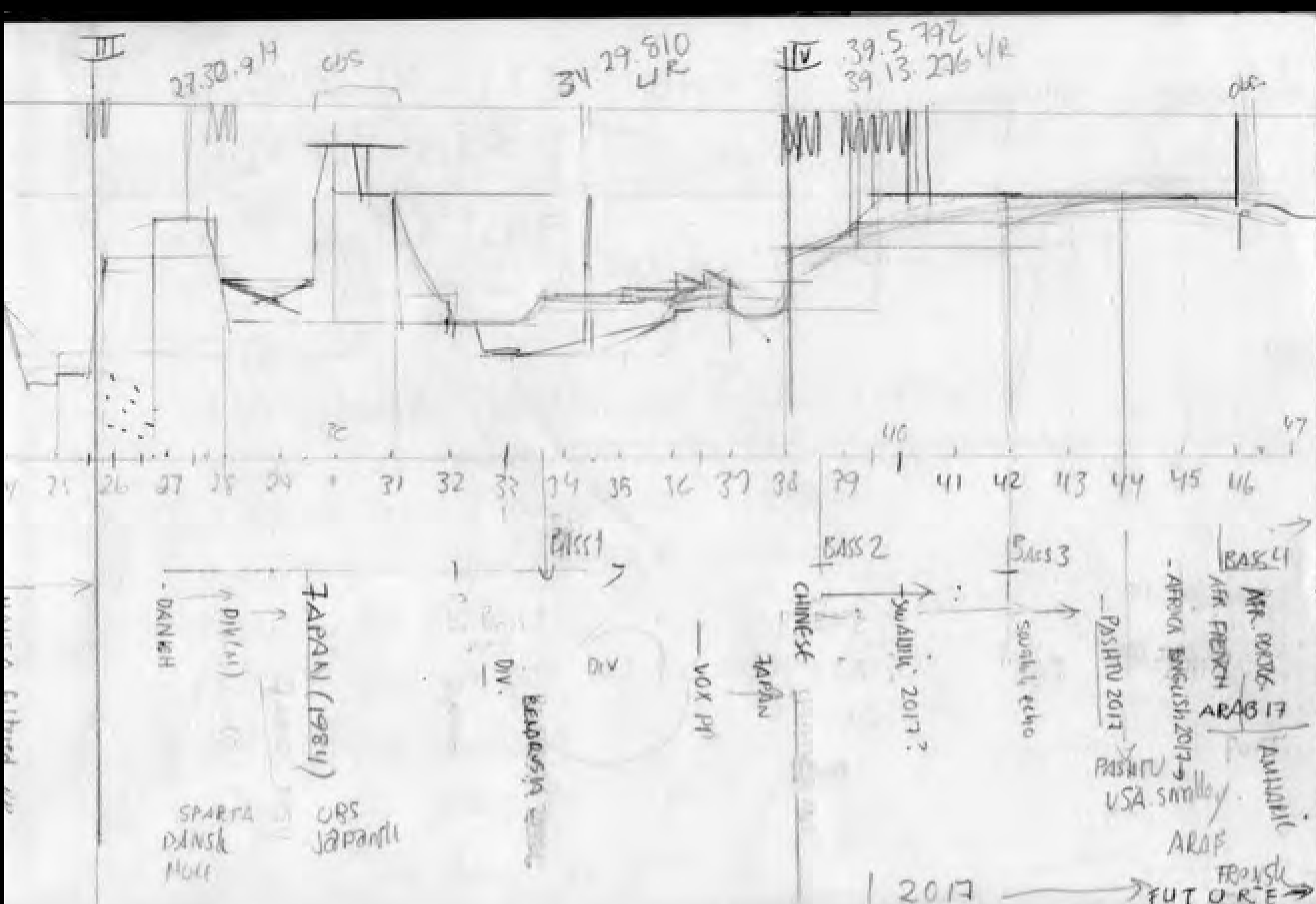
IVON OF MIND

THIS Broadcast will be a one pass live broadcast. Not archived. Not avail. for streaming
Be present. Property relations around a performance contract. Not streamed. Recorded.
How to keep out of things? Last decade + disturbing + through the language
and gestures of care & hospitality — opening up an inclusion but also
about conquest.

WHY a radio program should not be recorded. Or documented. HC.org
Today we do only ephemeral conversations. No soundcloud. No youtube. Remove uploaded stuff!
to keep things quiet and handled with more care than pop cultural upload for everybody

decentralized audience


TIMETONEPASSAGES FOR DEUTSCHLANDFUNK 2017
-FRENCH 1961
-SPANISH 1961
-ENGLISH 1958 language lessons
TURKEY (1962)
PERSIAN 1966
CHECH - 1962
HUNGARY 1962 lang course
ARAB (1963)
- DOBRIDEN
BAUM BAUM
KILOMETRO
RUSS
Swahili
Haussa


27.30.917
34.29.810 UR
39.5.792
39.13.276 UR
-DANISH
JAPAN (1984)
BASS 1
BASS 2
BASS 3
BASS 4
CHINESE
— VOX POP
-PASHTU 2017
ARAB 17
USA
2017
FUTURE

'My work features hundreds of portraits and style details and explores the various functions clothing has in a club environment. I love capturing intimate moments between people and the special relationships the club space creates. Dance and movement also fascinate me. These things show the freedom people feel inside a club in comparison to the street. My photographs can be seen as a campaign for the urgency of these spaces that provide safety for many people. I have been a part of club culture my whole adult life, so I'm able to capture the fragile nature of these communities without interfering with someone's space. I want this project to be a photo book and an exhibition. It will definitely result in a gathering where we celebrate the positive power of club culture both with familiar friends and total strangers.'
Amie Galbraith

CELEBRATING COLLECTIVE JOY AT PROGRESS BAR
Photographs by Amie Galbraith

PROGRESS BAR 2020
OT301, Amsterdam

20 March
17 April
22 May
19 June

Progress Bar is a club night dedicated to communal desire and collective joy and showcases a growing community of artists, academics, and activists, who occupy clubs to empower through sound.

‘In countries where the social system has broken down and cultural institutions are lacking, clubs serve as hubs where people meet, move, learn, but also where young people are influenced or manipulated. When clubs are understood to be places in which social changes are reflected, the examination of dance culture can help better predict and understand the behaviour of mass movements.’ From the text to the exhibition *Dance of Urgency*, curated by Bogomir Doringer, frei_raum q21 / MuseumsQuartier Wien, 2019.

‘How do we theorise something that is supposed to be embodied, immediate? Kodwo Eshun offers one method; we change how we do theory: “When painters paint, they are theorising immanently in the field of paint. Sonically, when you compose, you are theorising tonally.” Theory does not only belong to the field of writing or cognition, but also to the realm of experience. Club theory turns out to precede itself; it pre-exists writing about club theory, has its own canons, methodologies, experts, amateurs. It generates its own conceptual apparatus, which we can apply to itself, or to other fields of inquiry. To club is to be a club theorist.’ Sally Olds & DJ Sezzo, ‘Club Theory: Two Recombinant Texts on the Impossible Space Between Theory + Experience’, in *AQNB*, 2018.

Amie Galbraith has been photographing club spaces for seven years and the visitors of Progress Bar for the past three years. Interactions with the crowd and style mostly influence her work. She moves through the space, observes, and uses her intuition.

Amie Galbraith will photograph Progress Bar visitors at Sonic Acts Academy. The programme takes place on 22 February in Paradiso.

Apathy, The New Standard

DeForrest Brown, Jr., a.k.a. Speaker Music, is performing on 21 February as a part of the Sonic Acts Academy club night at OT301.

Photo by Ting Ding.

Ting Ding, DeForrest Brown, Jr.

Following the financial crisis of 2008, the American culture industry began to shift towards more experiential and representational commodities, such as social and algorithmically curated media. The crash was caused by an overexertion of the American housing market due to mortgagers unsustainably gambling a widening gap between loans and debts; displaying America's unwavering belief in currency, technology, and the governmental regulation of both – effectively bullying consumers beyond their capabilities, driving the economy into a collapse. During the recession, media content producers adopted tech start-up managerial and marketing strategies meant to streamline consumption and production in a way that could ensure return on investments. Automated and data-tracked service would increase efficiency within the work/play dynamic frame of everyday life by gathering and placing bets on data extracted from aggregated and algorithmically driven content generators to be sold as an abstract good with a limitless supply. The invention of a modular self through the exchanging of credits and value is a potent and particular feature of capitalism and industry that we could observe as a collective societal plunge into a fantasy of a race to the finish line of the human condition. Rising property taxes and student loan debts over the next few years exposed the speculative nature of an economic market 'prone to shocks' as well as the social standard of wagering one's potential for survival in excess against the odds of extracting beyond nature's ability to heal and reproduce. In the book *Platform Capitalism*, Canadian political theorist Nick Srnicek takes note of the development of the digital economy alongside that of the declining profitability of market and industry. He writes: 'Capitalism has turned to data as one way to maintain economic growth and vitality in the face of a sluggish production sector.' And further explains that 'The platform has emerged as a new business model, capable of extracting and controlling immense amounts of data, and with this shift we have seen the rise of large monopolistic firms.' Technocratic societies lean on a closed-loop system that demands that every person offer themselves as a resource or commodity for the global market; overexposed to outsourced user experience designs supplying atomised and rationed knowledge and value.

Born, raised and standardised during the 30 years of online and technological development leading up to the Great Recession and installation of platform capitalism, Millennials and Gen Z are primed to think that, with the help of platforms, they can predict or control the next step in a sequence of their lives; reasoning possibilities deductively without theory, observation or experience. Swedish media streaming platform Spotify launched in October 2008, just as the music industry fully standardised to the invariably cheap and overtly convenient packaging of music as files, adapting the industry to counteract illegal downloading amid declining CD sales in general. Before this, music was sold as either a full-length album or single, with any other type of content being deemed as extra or transitional, i.e. the single with music video, the double album, the mini-LP or EP (extended play). The expectancy of value before the introduction of streaming was based purely on format and amount of music being presented by an artist and subsequent advertising being adequate sales drivers. Spotify, in a word, *sells* 'all of music' for $9.99/month, with each play worth approximately $0.004. On the backend, Spotify is worth $25 billion. CEO Daniel Ek owns 9 per cent of the music streaming company, and he is worth $2.3 billion. Having effectively wedged itself into the music industry as both a distributor and industry standard, Spotify's business strategy cuts the overhead of physical production and trading of music while increasing its value as an associative middle man. Spotify users subscribe to gain immediate access to a seemingly unlimited archive of music content, with three consumer conditions: appreciate music as it is distributed through their governed channels, hear music in a curated playlist as an intangible ambience shovelled down a feed, and assist in optimising their program by organising and participating as a prosumer.

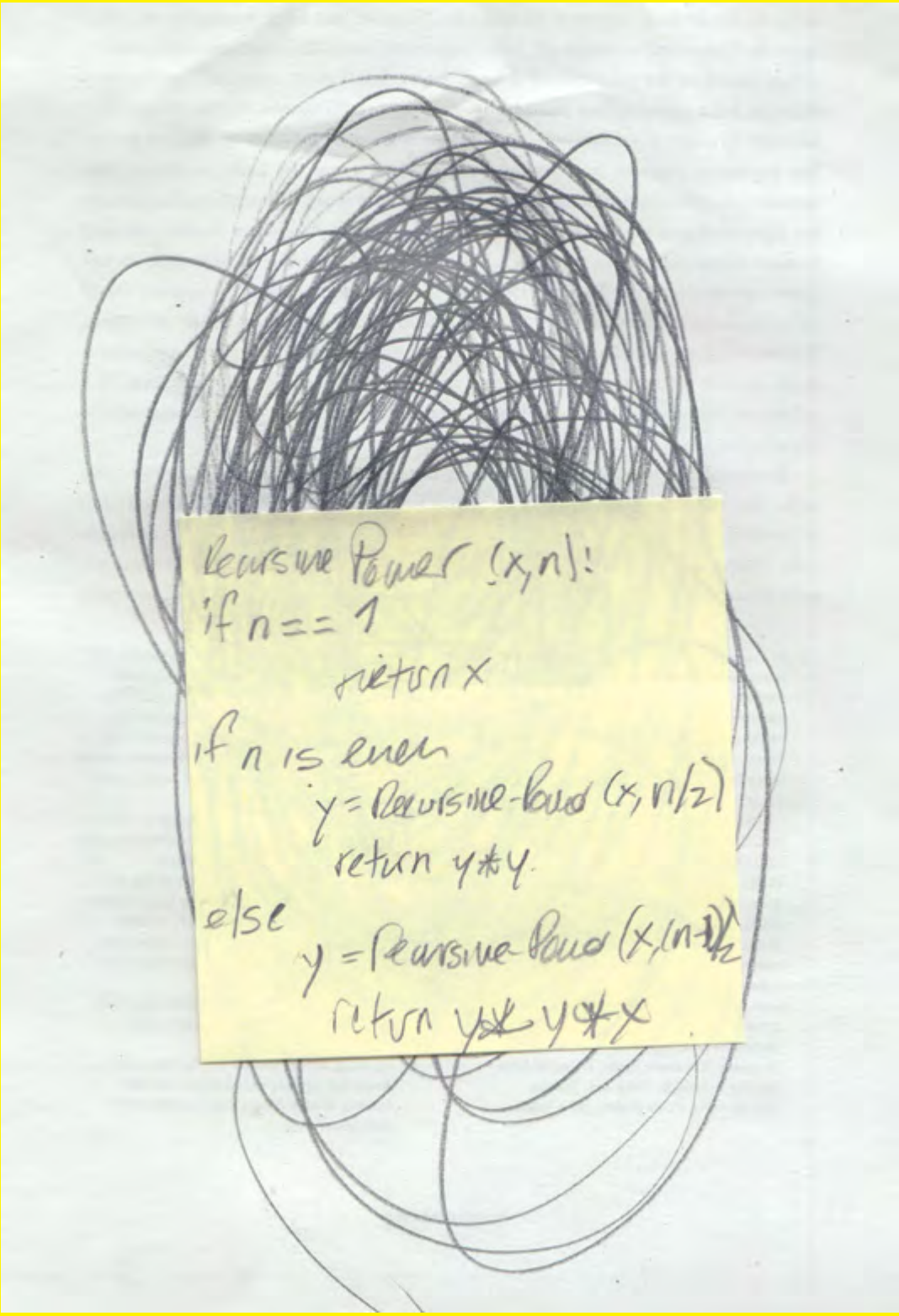
The rising trend of chillhop/lo-fi hip hop music on streaming platforms like YouTube began in the 2010s with larger channels having more than 2.5 million subscribers and thousands of listeners at any time. These channels feature anime-styled characters, often portrayed sitting by a window studying or relaxing, gesturing at a 'chillness' which in turn hypnotises the user into a sedated productive state. The nostalgic beats have been linked to MF DOOM and Madlib, which have strong ties with the late-night television program Adult Swim, which airs adult-oriented animated shows and imported anime typically for college students. The optics of anime-style characters engaging in banal acts of everyday life mirrors the viewer's lived experience, hosting a unique demographic cross section who enjoy both anime and lo-fi beats.

For the listener, the consumption of sounds is categorical and medicinal as opposed to being expressive or embodied.

College Music is one of the more popular lo-fi beats channels, founded in 2015 by two British youths who hoped to share music that they found exciting and fitting for their channel's mood and audience. The name College Music came from their small group of college friends who struggled to find music amid the wealth of options provided by both music history and streaming services. With a million subscribers, College Music functions as a platform for distributing content for free, outside of the context of standard music release cycles and publicity channels – replicating the communal college radio context within the framework of a viral update of pirate radio. They intended to share music in a context in which it could be received with relative ease in line with the listener's daily routine. Chill music in an automated culture industry serves as a constant and controlled dosage of outside expressions, functioning much like Deleuze and Guattari's desire-production model in which desire is a productive force that produces a reality. The channel ambiently settles into the user's environment with background music as the animated character reflects the user's actions, manufacturing a workflow as users sit alienated in their imagined private work/study space. A live chat section accompanies the animated scene where users engage in fragmented, rapid one-way conversations with little continuity or engagement, but offering overall positive reinforcement and encouragement towards perseverance. The standardisation of sounds ushered along algorithmically automated platforms flattens out differences through relentless application of technical standards determined by few experts to enhance network effects for end users. This maximising of compatibility and interoperability allows the platforms to attract more users and increase profitability. The user becomes overloaded with content, eventually succumbing to a general apathy towards a chosen standard of potentially stimulating options.

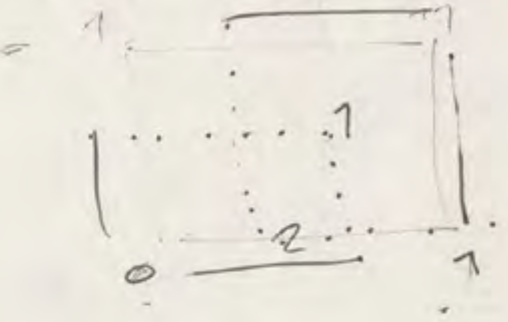
In Canadian-American psychologist Paul Bloom's 2016 book, *Against Empathy*, an argument is made in favour of moral decision-making that is dictated not by sensorial experience, but by programmatic rationing of assumptive logic and thought. Empathy, the scientist felt, was too mired in the details of personal affection, skewing biases within a matrix of supposedly neutral options of lived experience. One could consider this assertion to be a kind of soft fascism, splitting the hairs of philosopher David Hume's notions of what 'is to be' and 'ought to be'. One can surmise that to have thoughts and ideas that wager the value of others is an immediately fascistic and fatalistic idea. One's mind never touches the outside unless it connects to the sense receptors that the body's limbs graciously provide. Bloom, at the time of this writing, is a professor of Psychology and Cognitive Science, teaching and researching how children grow to understand and adapt to the world around them. Bloom's study does not fulfil his proposed thesis. Instead, he works towards an isolated and solipsistic belief in 'the world' placed within prematurely drawn restrictions. In short, Bloom suggests that we disavow empathy to gain a sort of security of expectation and self-righteous belief. Platform capitalism was able to grow itself into the living and industry standards during a decline in economic activity. In the 2010s, consumers failed to become fully aware that data (and, ultimately, they themselves) have calculable value. What should have been a short experiment in understanding what stifles and stimulates consumers to move or clog the global economic/labour market, instead became the standard of production and currency itself, leaving consumers unaware that there is: a) an experiment taking place, b) that they are the subjects of said experiment, and c) the experiment is to test for the most efficient mode of extracting and selling back personal value.

On A Psychedelic Becoming



Hugo Esquinca's intervention, *On A Psychedelic Becoming*, will be performed at the last Sonic Acts Academy evening on 23 February. The piece is commissioned by Sonic Acts as part of Re-Imagine Europe, co-funded by the Creative Europe programme of the European Union.

Hugo Esquinca



1 - 2 - 3 - 1
0-1 0-1

config

A = x(0,1) y(0,1)
B = x(1,0) y(1,0)
C = x(0,1) y(1,0)
D = x(1,0) y(0,1)

A:

22.4

- Try FM!

cumbie FM
a
RGB
y
Tabs

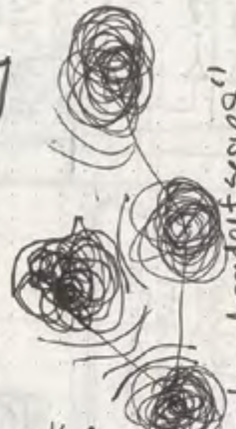
- Mod Fields

↳ The composition is not reserved to the programming but to the "unfolding" of events.

Movements

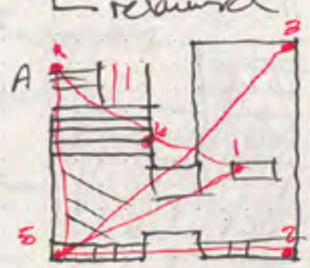
1) Linear mechanical - C-error
2) Non-linear with predefined finality - C-upgrade
3) Non-linear with auto-finality -

I CONTINGENCY ≠ PROBABILITY I

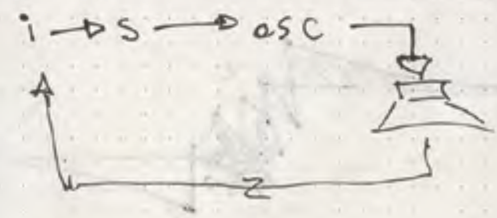


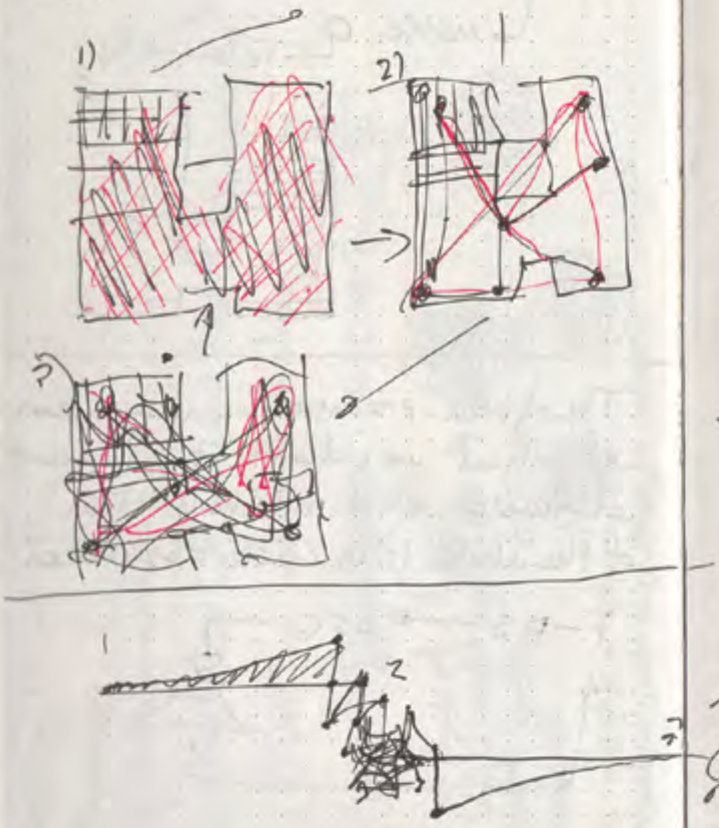
"two objects of a distant reality are brought together to produce something unexpected"
↓
"the combination or the encounter of events which belong to independent series"

* Auto ≠ (NOTE)
↳ make 6<->8 ch.
↳ make Q relaunch



The system produces an integration of distinct variations at X amount of degrees where intermodulation of the whole is in constant operation





ly processual - 21.04.19

matrix works [illegible] - scan

(?) - single osc

L oscaling? wavetable

ch

L 0 1 2 3 4 5/6

[illegible] sweeps

§2 Invisible Nature, Visible Mind

Not to eliminate what is contingent but to integrate it as necessary

§3 Contingency and Finality

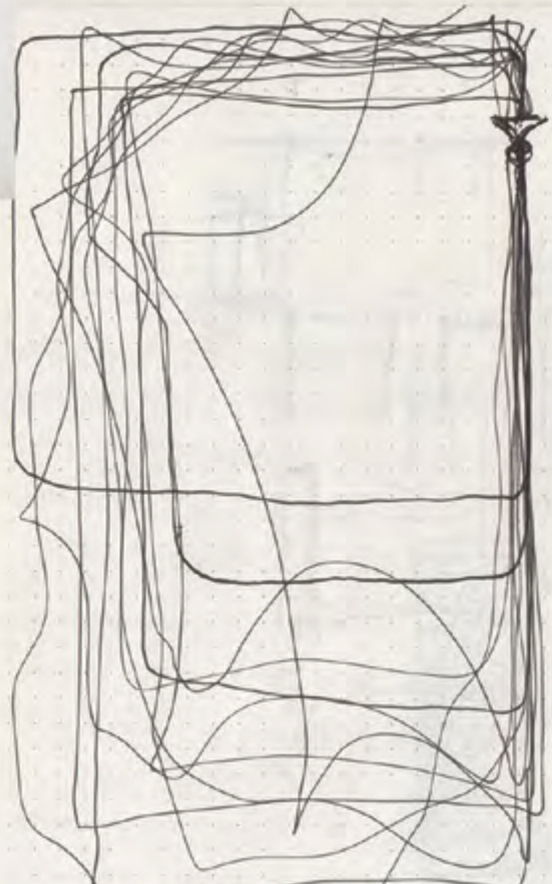
L Not in a specific probable event but every event.

Structure and operation

→ mod ver : +

Unexpected event that circumscribes other possible events

- wavetable rate




mic1
mic2
A
Filter process
3) Non-linear with the
Adventure of
Reason
p.3
Recursivity and Contingency
From first Nature (Romantic)
To Second-Nature (society)
Standing Reserve
20Hz
20kHz
Resonant metallics (independent)
Spiral/sinusoidal

the Production Potentials
Digital

(in) Cybernetics 1° Order

A) Wiener's notion of the resolution between Bergsonian duration and Newtonian reversibility

A1 2° Order
Luhmann ? Marin
Systems Theory
NOOSPHERE

Beyond negative feedback.
Beyond sound as communication

B) Phenomenologically
1° and 2° retentions B1 and 1° and 2° protentions B2 in Husserl

B1
Mnemotechnics
(Stiegler)

B2
3° Protention
(Hui)

I think you think
Preemption + Categorization

C) Heidegger End of Philosophy
"Theory as function but without any ontological meaning"

D)
SONIC IMPASSE
AI/ML/NN

sound practice, yet ... of dissolving sound in further conceptual extensions.
To do further with different inventive technologies which are not restricted to the digital of course

At a processual level:
Wiener and the Newtonian / Bergsonian Tension.

At a phenomenological
Husserl
1° + 2° Retention → 3° mnemotechnics (Stiegler)
1° + 2° Protention → 3° (Yuk)
Algorithmic preemption.

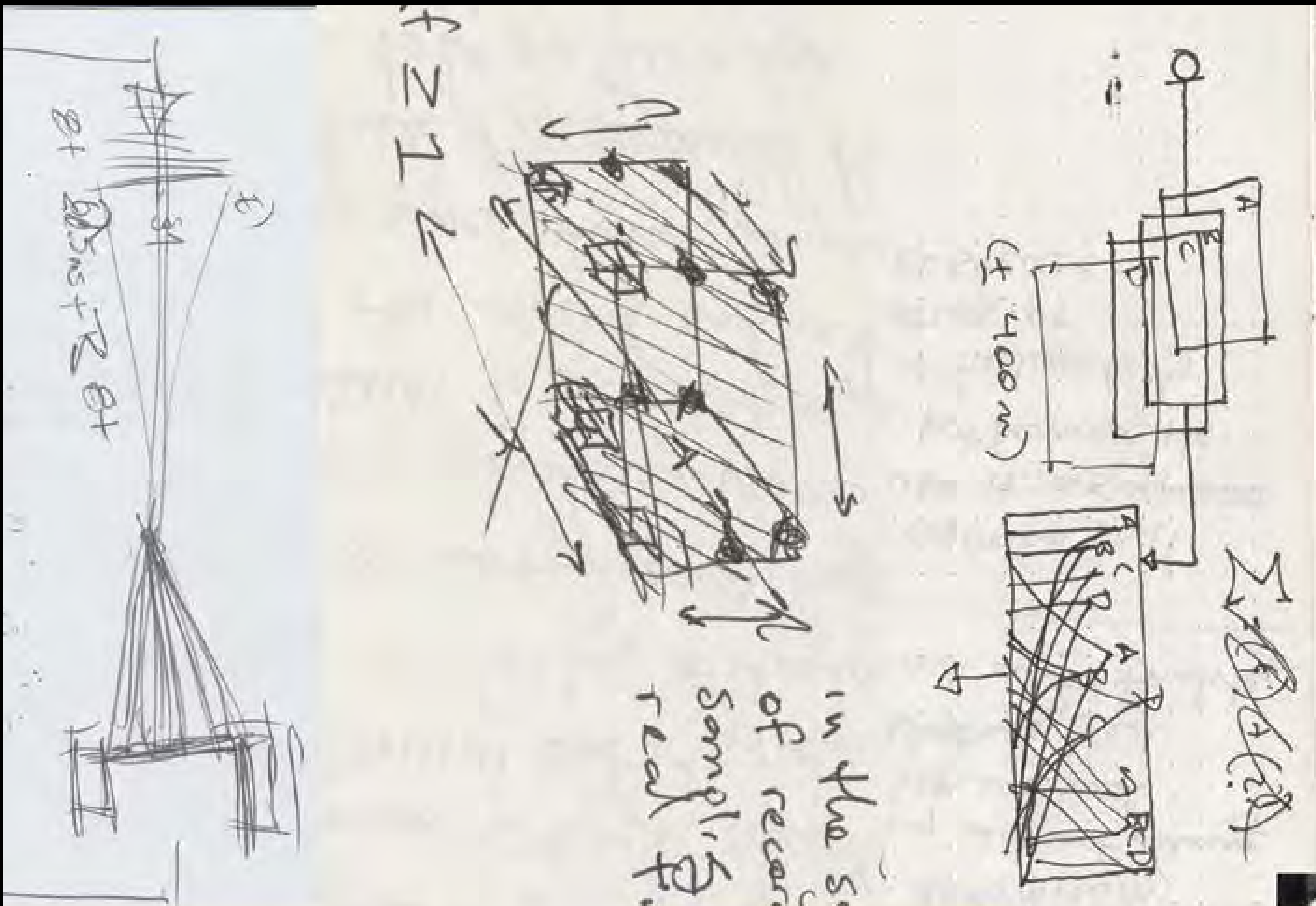
disparity
Simondon/Deleuze
difference → Categorization (AI/ML/NN)
Heidegger end of Philosophy

Sound production is not exclusive to TECHNOLOGY

(indeterminacy)

Relative Native sound trace

Reopen the question of the known



- Listening and the Environment and/or listening to sonorous phenomena. I think these distinctions in sonic realism / phenomenology are abolished by a recursive listening, one which does not ultimately go from the sonorous object into the audible subject but that is a loop open to contingencies – the so called priority fails to (Lyotard, the nuance and the extinction of the usual reflexivity of the subject as a fields non repetition).
- A.I. -> Reductionist predictions vs General Allgometic.
  To approach the mechanistic use of organicist machines for deterministic use.
  Technology as mediation not equivalence or pure instrumentalization

- ↳ How to escape the totalizing elements which today constitute "AUDIO" culture? namely sample rate / Bit depth which so well couple with global telecommunication + mediation
- I think there was a potential in works like Curtis Roads / Xenakis / D. Gabor which resonate with what Lyotard

*A 1

Oscillation and modulation
recursivity and contingency

- Margin of indeterminacy beyond automatisms (Simondon)

TIME
↳ as ontological structure
as process ← Texture Prot.
↳ Granular synthesis

- Recursion
  - Listening and Reduction
  - complete or nothing – mind and body as recursion
    - part-whole

- Xenakis sounds by themselves is not a passive

[- Return to an education of the sonic beyond] Xenakis

- OBJECTS -
  - Recursion as in computation → THE NUANCE
    ① Listening of the machine
    Godel/Hilbert/Turing
    A

– COSMOS → technics →

② (Gradually meets contingency)
B

– SYSTEMS

(Kant / Schelling / Hegel) →
Fourier / Ohm / Hertz
Recursion leads to
Time (3° Protention)

C.1. Kantian reflective judgement as a precursor to recursive thinking. by being the foundation of both aesthetic and teleological judgement.

Reflective Judgement supplements the categorical one –

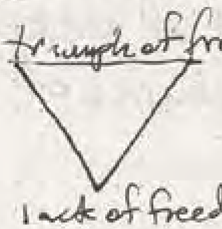
'Performativity' of procedures substitutes de Jure for the de facto.

Knowledge no longer produced by laws but by the induction of facts.

p. 244
Sound no longer constitutes [production] a symbolizing power but rather a symbolized commodity!.

NOOSPHERE – Teilhard de Chardin

triumph of freedom – collective (?)



lack of freedom individual (?)

Lyotard's solar Catastrophe as a challenge to Meillassoux correlation

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Meillassoux and the mathematization
p. 259

from bow to ear

Maika Garnica will present her sound piece, *From Bow to Ear*, at the opening of the Sonic Acts Academy on 21 February at the Stedelijk Museum Amsterdam.

Maika Garnica

a bow
to perceive
a bow
to receive

a bow
to touch
to move
to float

a bow
bow
bow

to catch
a bow
to hear
a bow
bow
bow

coming to
your ear

Pavane Op. 50 in a Room (Blue)

Sadaf will perform at the Sonic Acts Academy opening programme at the Stedelijk Museum on 21 February.

Sadaf H Nava

Pavane Op. 50 Played by an Orchestra (Red)

Sadaf H Nava

Queering Damage

∂ ⁖ ∗ ◊ ฒ + ^ + Æ (DAMAGE) /
∫ = ^ + ∫∫ / (xΩ, xΔ, xa, x∃, x©, x≠)
+ >>+ ¡+*+ # +” +💛+ ↺+♗+♘+ ↺+
✵+⚕ (tΩ, tΔ, ta, t∃, t©, t≠) =
QÆ (QUEERING DAMAGE OR N)

A methodology for queering damage.
A methodology for partial reparation
... or not.
A methodology for holding damage.
A damage for so-called methods.
A methodology or not.

QUEERING DAMAGE is an analytic to read-write the complexity of damaged/damaging technosciences and to situate ourselves in these mundane and alluring, yet reoccurring scenes. It is a set of operations that can be practiced collectively to consider the agencies, labours and harms of technoscience, to imagine life otherwise. You can use this manual to ponder the possibilities and limitations of authoritarian informatics and to study the related affective in/non/human (microbial, animal, plant, mineral, cosmological) forces in scenes of damages. In the meantime, the manual can also be used to extend, cut or twist the very notion of 'us/we/you'. It is anchored in a non-linear, fragmented and partly fictional trans*feminist para-tradition of feeling backwards and always already emerging by, for and despite damage. Queering Damage is a method for *queering damages*: an analytical praxis that functions as a plastic but rigorous method for *formulating* partial reparations... or not. Instead of extending benevolent utopianism, this praxis extends queer theories that concern personal injury into more-than-human ensembles in order to consider the *shared* damages. It is designed to be carried in your pocket, holds a free art license, and exists to be used and re-situated.

WARNINGS (TERMS AND CONDITIONS OF USE)

While using this manual, please be aware that Queering Damage is an operative analytic that:

- Provides a framework to write accounts of damages AND a framework to write accounts of damage after (queer) reparations, or not... and does it without committing to a linear paradigm of causality.
- These accounts demand attention to the deep entanglements or implicancies of damage, particularly to its effects and affects. It attends to consequences that may happen, have happened, might happen again.
- The implicancies are considered with a recognition of their entanglement with specific spacetimes.
- Human and nonhumans are recognised as fixed and finite agencies within these operations, yet are held as elements of each other.
- The operations consider how so-called bodies might emerge as so-called humans. These becomings are not not-predetermined by historical conditions; however, they are open to interventions, undoings and unmakings.
- Although Queering Damage notes agencies, it recognises that their capacities are interruptable and not stable.
- This analytic allows to include further damages at the point of repair or reparation which are not to be excluded from the account.
- It considers the interventions that make transitions between conditions happen, whether they are reparative or not. There is a need to recognise that movement between conditions is not unidirectional but that these transitions might cause harms and damages themselves. Although reversal might be possible, it is not a-historical nor innocent.

HOW DO QUEER ANALYTICS OPERATE?

This analytic develops an ethics from damages rather than from so-called individual body boundaries, whilst keeping the damages of lived experience firmly present. No forgetting, no forgiving.

The framework operates upon the damages through:

- *a series of questions*, through which orientations might shift and a complex account of damages can be generated;
- *notations of the effects and affects* on human, nonhuman, inhuman and elemental fantasies;
- operations can also be used to *imagine the possible undoings or interventions* on a condition such as love, protection, etc.

QUEERING DAMAGE OPERATIONS

OPERATION 0: ATTUNEMENT
Open the room, break the flow, get into the flow, feel the ground, attune to the environment, find the courage, feel the urgency.

OPERATION 1: SITUATION
Consider, inhabit and add to the glossary of Queering Damage (see end of manual).

OPERATION 2: BRINGING DAMAGES
Bring one or two experiences of ‘damage’ in the broadest sense. They don’t have to be personally experienced injuries: they can be observed damages or collective ones. It can be bodily damage, community damage, environmental damage, personal injury, historical damage, public damage, fictitious damage, cultural damage, file damage, structural damage, naturalised damage, computer damage, urban damage, transgenerational damage, geopolitical damage, etc.

OPERATION 3: INTERVIEWING THE DAMAGE
Ask questions to the damage to widen the notion of damage and identify its conditions and surroundings.

- *What* is going on here?
- *Which* are the agencies implied (alive or not, human or not, powerful or powerless)?
- *Wheres* (spatiality/situatedness/displacements/distribution)?
- *Whens* (temporality/durability/existing/extinct/repeated)?
- *Semiotic-materialities:* What signs and matters are at work in this ensemble?
- Your *entanglement* with the scene.
- Can a *pattern* be identified here? To what extent is this damage structural or singular?

→ You might want to limit the time spent with this interviewing-the-damage process.

OPERATION 4: ACTIVATING BIBLIOGRAPHIC SELF-DEFENCE
See, for example, https://queeringdamage.hangar.org/index.php/READER.

OPERATION 5: SUBCULTURING
Seriously test the (im)possibilities of being-with a slime mould, spirit, stone, tree, server...

OPERATION 6: ANALYSIS

1. Define your field of interest. Cut apart and together an area of urgency. Set the scene through naming the fields:
   ᘐ ⁙ ✱ ⚓ ◊ ᗰ

2. Declare your Æ, Entangled Agents (myth, technology...)
   Æ = pH+pNH+pIH+pF
   ^ + Æ (DAMAGE)

3. Divide by the axioms of αe (ethics) and αK (Kapital)
   αe
   [formula]
   αK

4. Where/When
   Define the spacetime conditioning: ephemeral, eternal, cyclic, linear, continuous, eventual, historical present, memory, extinct, dreamt, extended, distributed, dissolute, dispersed, concentrated, catalysed, centrifugal, centripetal, located, situated, regional, local, global, reachable, micro, meso, macro...
   ∫T

5. Talking about relations. Analyse and notate the Æ through a consideration of its Variable Relations (Ω repair, Δ damage, a affects, E effects, © creative force, ≠ difference)
   ∫ = ^ + ∬ / (xΩ, xΔ, xa, x∃, x©, x≠)

6. Generative Operations
   Apply at least one Generative Operation for your analysis to see what it would do. Queering Operations. These are tricky; they require you to take responsibility. Define their scale.
   >>+¡+*+#+”+❤️+↺+♙+♞+↺+✵+⚕

7. Declare your QÆ = qH+qNH+qIH+qF+qd, declare the reconfigured entanglement
   (tΩ, tΔ, ta, t∃, t©, t≠)

8. Divide by the axioms of αe (ethics) and αK (Kapital)
   αe
   [the rest of the formula goes here]
   αK

9. Name the other end of the equation
   QÆ (Queering Damage or N)

SYMBOLS

INDICATORS
H Human
NH Nonhuman
IH Inhuman
F Fantasies/Imaginaries

GENERATIVE OPERATIONS
potentials for queering; modes of intervention
>> remediate
^ scale timespace to n
i integrate
* multiply
# speculate
“ renarrate
❤ love
↺ protest
♙ resist
♞ reclaim
↻ invent
✵ flip
⚕ celebrate

VARIABLE RELATIONS
A declaration of the relations in your scene of damage that you are you attending to
Ω repair
Δ damage
a affects
∃ effects
© creative force
≠ difference

AXIOMS
ae axiom of ethics (survival, caretaking, respect, responsibility)
αK Kapital (accumulation, acquisition, growth)

GLOSSARY (FIND YOUR OWN PATH... OR NOT)

affirmation

agencies
see Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, Durham: Duke University Press, 2007.

anthronormativities

bioeconomies

counter-coercive computing

damage
may include but is not limited to pain, suffering, injury, unrevoerability, unreparability, racism, homophobia, transphobia racism, ageism, ableims, specism, classism, exclusions, inclusions, uselessness.

dispossession
see Judith Butler and Athena Athanasiou, *Dispossession: The Performative in the Political*, Cambridge: Polity Press, 2013.

entanglements
see Karen Barad, ‘Getting Real: Technoscientific Practices and The Materialization of Reality’, in *Differences: A Journal of Feminist Cultural Studies*, vol. 10, no. 2 (1998), pp. 87–128.

generation
see Lynn Margulis and Dorion Sagan, *Slanted Truths: Essays on Gaia, Symbiosis and Evolution*, Springer Science & Business Media, 2013.

feeling backwards
see Heather Love, *Feeling Backward: Loss and the Politics of Queer History*, Harvard University Press, 2009; Saidiya Hartman, *Wayward Lives, Beautiful Experiments: Intimate Histories of Social Upheaval*, New York: W. W. Norton & Company, 2019.

figurations
see Lucy A. Suchman, *Plans and Situated Actions: The Problem of Human-Machine Communication*, Cambridge University Press, 1987.

SYMBOLS

FIELDS

- on the experience and process of damage and pain, partial reparation, loss/dispossession
- on queer politics and methodologies, contestation, affirmation
- on contesting anthronormativities
- on bioeconomies, lively capital, accumulation
- on computation, analytics, bioinfotech
- on political fictions, poetics, figurations &/or wild fantasies, opportunities

implicancies
only to be known through its implications; see Denise Ferreira da Silva and Arjuna Neuman, *4 Waters: Deep Implicancy*, The Showroom, 2019.

inhuman
see Kathryn Yusoff, *A Billion Black Anthropocenes or None*, University of Minnesota Press, 2018.

injury and injurious computing
see Helen Pritchard, *The Animal Hacker*, PhD dissertation, Queen Mary University of London, 2018.

poetics and poetical readings
see Denise Ferreira da Silva, 'Toward a Black Feminist Poetics: The Quest(ion) of Blackness Toward the End of the World', in *The Black Scholar*, vol. 44, no. 2 (2014), pp. 81–97.

queering
non-identitary, non-essentialist, non-fixed lives → trans*feminist approaches // intersectional, not-only-human, antinormative, affirmative, (partial)

reparation
perhaps that we can have some partial hopes to repair some damages but not others, or to live with damage in ways that give comfort and care. A basic gesture of trying to organise a togetherness that counts.

queering methodologies
how can we, as Octavia Butler might say, 'uphold a politics of queer survival'?

semiotic-materialities
see Donna J. Haraway, *Modest_Witness@Second_Millennium. FemaleMan_Meets_OncoMouse™: Feminism and Technoscience.* Routledge, 1996.

spacetime conditioning

technosciences

trans*feminist
see Possible Bodies inventory

ACTIVATIONS OF QUEER DAMAGE
Queering Damage – workshop, Barcelona, October 2018; Alchorisma – work session, Hasselt, December 2018; Collective Conditions – work session, Brussels, November 2019; ROCK REPO – installation and workshop at BodyBuilding, Tetem, Enschede, February 2020

PREVIOUS VERSIONS
Queering Damage Manual V1, Constant, Brussels, 2019; *Queering Damage Manual V0*, Hangar, Barcelona, 2018

Helen Pritchard and Jara Rocha will present a lecture at the Sonic Acts Academy conference on 22 February.

Opening to the World of Sounds with Marja Ahti

Marja Ahti in conversation with François Bonnet

Photo by Sorbus.

Vegetal Negatives album cover art.

François Bonnet: You've been releasing music for ten years but only recently decided to credit your work under your own name. Does this signal a new step in your musical evolution?

Marja Ahti: The decision to work under my own name was a result of a gradual shift in perception, followed by a veritable learning explosion concerning both listening to and creating music. There is a before and after, so this change was an appropriate mark.

FB: You also make music in the duo Ahti & Ahti. What do you consider to be the main difference between creating solo and in a duo?

MA: My solo work is an intuitive everyday practice. I can put thousands of hours into my solo work because I love spending days in the studio, trying out sounds and thinking about the task at hand. The duo work happens during more intense work periods. It involves a lot of discussions, sometimes even more than playing. We also record a lot when we travel together, so much of our personal history goes into the work. Maybe my solo work tends to be more abstract and elusive for this reason, compared to the more down-to-earth tone in our duo work. Both ways of creating bring different kinds of surprises.

FB: Your last record, *Vegetal Negatives*, drew inspiration from one particular text by René Daumal. How do you use literature in your music?

MA: Acousmatic music as an art form is inherently narrative, one could argue, because the use of 'real-world' materials invokes references to that world, much like words and images do. So, if a piece of music is also a web of loose references or associations, you can work with that as a parallel level to the musical form. With *Vegetal Negatives*, I decided to try and take this quite literally; to pick certain ideas from the text and find a way to interpret them in sound. In my recent work, I'm not using text as a starting point, but the approach is similar. I am simultaneously approaching sound as something physical and material and as elusive poetic images.
I don't see music as isolated and as a self-referential system – music leaks into life and life leaks into music. As listeners, we bring all our luggage into the act of listening, but we also, at times,

Marja Ahti will perform on 22 February at Paradiso as a part of *Expanded Experience* programme. Her performance at Sonic Acts Academy has been commissioned by INA GRM as part of Re-Imagine Europe, co-funded by the Creative Europe programme of the European Union.

Photo by Darko Škrobonja.

Photo by Pauli Laasonen.

dissolve into the physicality of the experience. So, on the one hand, you have this sense of direct experience, transcendent even, and on the other, a mess of associations and conceptual entanglements. I like to consider both.

> FB: There is a trend in the acousmatic dogma to think of this kind of music as a purely abstract form that eliminates the pre-embedded meaning of sound in order to allow pure sonic form. Thinking about what you've just said, perhaps the narrative dimension is lost with this approach. Do you also consider your music to be 'formal', meaning it also abandons narrativity?

MA: Of course! Just with a shift of attention. Reduced listening is a great exercise: practising zooming in and out between attending to form as it appears and your attachments to it. I'm not a scholar, so I'm just speaking as a listener, but I don't think it's possible to sustain a reduced state of listening, the level of attachments reveals itself. The interesting thing is to notice these shifts. It might teach you something about yourself and being in the world. Again, speaking on a personal level, I feel that a certain aesthetic of reduction in music might have the opposite effect: detaching you from the universe of forms that is actually hovering all around you in an isolated realm of technology. I admire people like Annea Lockwood and Luc Ferrari, who have made inspiring works that invite you to enjoy the energy and form of sounds while still maintaining a sense of being alive in the world. Toshiya Tsunoda's field recordings is another example of music that highlights observation while remaining completely transparent; inviting you to experience something familiar in a new way. Compared to this, I feel that my music is often unnecessarily cluttered – all over the place. Then again, it's a different thing. I also enjoy a bit of dirt.

> FB: What are your thoughts on playing live? Do you feel close to the acousmatic approach, where the concert is a moment of unfolding an existing piece of music in space, or do you 'create' electroacoustic music in real-time?

MA: In my solo performances, I'm usually live-collaging compositional elements with additional textures and tones from synthesizers and sometimes acoustic sound sources. The pre-recorded elements consist of both pre-composed parts and single sound objects that I process live, mostly field recordings or samples from a small Buchla system that I keep returning to work with at the EMS studio in Stockholm. It's still an acousmatic approach, but in a deconstructed manner, letting a piece of existing music come apart and be reborn in space. Our duo performances are more about creating sounds in real-time, including sounds of almost mundane, task-based activities.

> FB: Are you used to dealing with space in your music or shows? Do you have a particular way of thinking about the multi-channel possibilities or how experimental music should be presented for a concert?

MA: The performance at Sonic Acts will be the first time I have worked with a multichannel setup, so I'm very excited about trying out different ways of realizing this. My music usually deals with space more in the sense of how recorded spaces are incorporated in a composition, exploring acoustics in field recordings and using this as a compositional tool. I want to explore the speaker setup not so much as an orchestra, but more as an environment. The piece I'm working on will take the listener through different possible and imaginary climates – a bit like moving between layers of the atmosphere. I would like to explore the range between a subtle sense of a room that's alive and more dynamic movements in the space.

Sensitive States of Perception

Kali Malone in conversation with François Bonnet

Photo by Victoria Loeb.

Photo by John Snyder.

Photo by Victoria Loeb.

François Bonnet: You're from Colorado, but you moved to Sweden. Stockholm's scene seems particularly vibrant nowadays. What attracted you there?

Kali Malone: Stockholm's a very productive place for me, and I'm grateful to be living and working here. How this came about was I went to see Katt Hernandez play a house show in NYC and met Swedish musician Ellen Arkbro. She invited me to visit when I was 17, and I've been here ever since. I'm involved in the DIY community and academic music institutions here, so I've engaged with talented artists from multiple spheres. As well as spending lots of time at Elektronmusikstudion, I've also been a sound technician at the legendary Fylkingen venue for about five years. So I've observed a lot of developments happening in Swedish experimental music and become versed in its rich electro-acoustic music history. I don't think it's by chance that so many of Sweden's artists excel given the access to free education and healthcare, artist grants, and state-funded studios.

FB: You're a classically trained singer but stopped singing. Does singing still influence your music?

KM: My experience of vocal music is forever within me, and I still enjoy singing casually. Compositionally, I'm inspired by the structures of early polyphonic vocal music and intrigued by the interplay of multiple voices harmonically coordinating simultaneously. I used this as the main compositional and recording framework for my album *The Sacrificial Code*. I separately

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recorded each voice of the four-part harmony as if in an SATB format, then reassembled the voices in a multichannel acousmatic environment. Even though all four voices can conjoin and be smoothly played by two or four hands at once, the process of isolating the four voices aided in my conception of a woven contrapuntal network in which autonomous moving voices may convene at any moment. This element doesn't necessarily need to be observed by the listener, but it's fundamental for my conception of the music and its technical inspiration.

FB: Since living in Sweden, you have 'discovered' the organ. What attracted you to this instrument?

KM: During the first and only organ lesson I had, we spent all but five minutes at the console before I insisted we go inside of the organ. All of my questions where either about the acoustic properties of the pipes or their tuning possibilities. The teacher didn't answer many of my questions but was kind and gave me a stack of sheet music and arranged a date for me to meet with an organ tuner. We met and immediately bonded over our shared passion for tuning. He quickly became an important mentor to me. For a couple of years, I accompanied him on tuning jobs in Stockholm and small villages in the Swedish countryside. I learned an incredible amount about organ maintenance and repair, tuning practices, acoustics, and how to deeply listen to and comprehend dimensional harmonic space. During these tuning trips, I didn't have much time to freely play the organs, but it inspired me to compose with the smaller pipe organs at the music conservatory in Stockholm.

FB: What musical purpose does exploring tuning have in your work?

KM: For me, tuning is a deeply focused and perceptually challenging process that leads to a lot of sensory growth. My creative process uses tuning as a catalyst for composing, leading me to seek intervallic relationships that provoke profound sensory and emotional resonances.

FB: Do you feel close to someone like Eliane Radigue? I mention her because of the continuity in both of your work and the often-overlooked 'tuning' component in Eliane's music.

KM: Eliane Radigue's work has been very edifying for me. Among the qualities of her music I admire, her commitment to long-form stasis is particularly courageous and affective. There's another level of tuning occurring when actively listening to her work. Her music tunes the listener's attention to a place somewhere between committed focus and surrendered consciousness. It's within this state of mind that one can attempt objective observation of her layered textural tundra. Her work has helped to train this sensitive state of perception I aim for while tuning and listening.

FB: Your music has an 'anti-romantic' approach. Its expression is not a musical gesture summoned by a genius but by rules and structure that help build a 'selfless expressivity'. Had you already explored this legacy of Cage and Feldman in the US, or is it something you developed in Sweden?

KM: Thanks for that interpretation, I'd say it's a fair evaluation of some of my work. This approach grew over time while in Sweden. It's not something I'm entirely bound to, although the more I commit to it, the more difficult it is to transition to other forms of expressivity. Applying a rational and generative structure to the organisation of sound challenges my willpower and ego. It submits my chaotic nature to a discipline based on a concept rather than emotion. Interestingly, the music ends up projecting something much more emotional and personal than if it had been composed without a predetermined structure.

FB: You create acoustic and electronic music. What are the differences, if any, in the approach to these two modalities?

KM: I love to combine synthesis and acoustic instruments in my work. There's an incalculable beauty to an acoustic timbre's organic quality and the human sensibility's delicate obscurity. There's also a component in the process of recording acoustic instruments that demands more commitment and clarity from my part, making the whole thing feel more humbling and significant. The idea of 'the recording' is quite different when I've set up the studio, borrowed microphones, and reserved time with live musicians than when I'm spending hours at my leisure on a new synth patch. There's an implied scarcity and urgency in the former recorded sound, which

might be why my latest works use so much acoustic material.

FB: You're creating a new work in the context of the Re-Imagine Europe project, which you'll present at the Sonic Acts Academy and INA GRM's The Focus Concert Series with a loudspeaker orchestra. Will you develop something specifically for a 360-degree diffusion of your music?

KM: Yes.

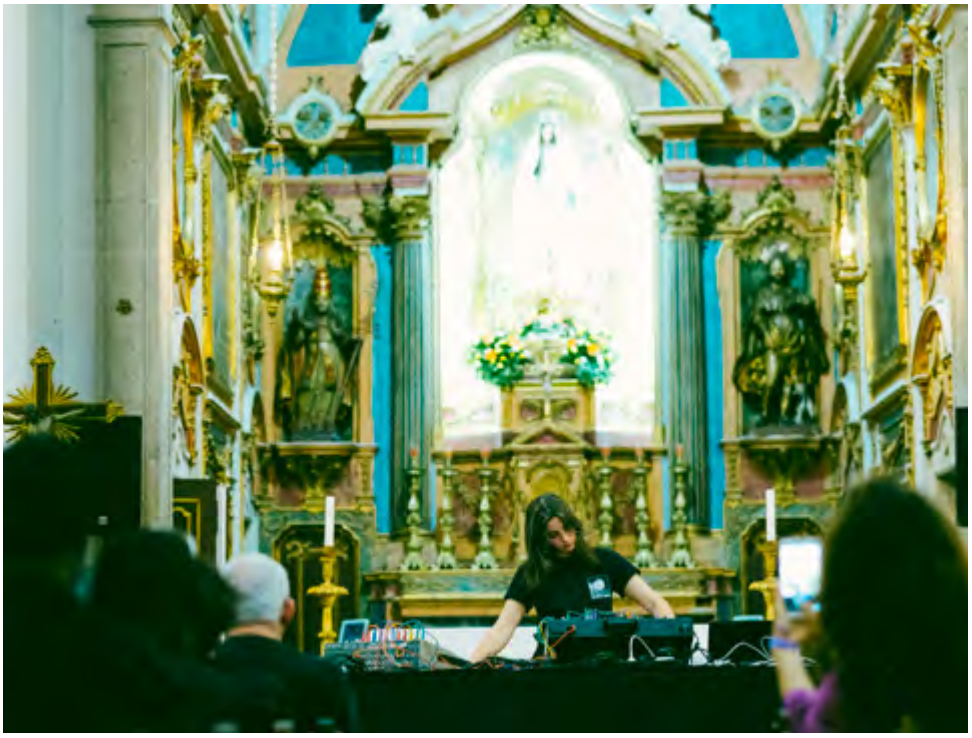

Photo by Vera Marmelo.

Photo by A. M. Rehm.

Lag OS, *Drasland Stretch*,
secret synthetic sound walk,
21 & 22 February.

All referents abandon, ye who enter here

Re — Imagine Europe

Jennifer Walshe, Timothy Morton, TIME TIME TIME; performed at Sonic Acts 2019.

Catherine Christer Hennix at Sonic Acts Academy 2018.
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The Informals/Неформалы by Andreas Kühne and Polina Medvedeva; performed at Sonic Acts 2019. Photo by George Knegtel.

Re-Imagine Europe is a transnational project comprised of 10 cultural organisations from across Europe that addresses the social and political challenges we face today. Re-Imagine Europe develops, produces, presents and distributes new cutting-edge art.

Re-Imagine Europe is a collaboration between Sonic Acts (NL), Paradiso (NL), Elevate Festival (AT), Lighthouse (UK), INA GRM (FR), Kontejner (HR), Bergen Kunsthall (NO), A4 (SK), Disruption Network Lab (DE), and Ràdio Web MACBA (ES).

www.re-imagine-europe.eu

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Re— Imagine Europe

Co-funded by the Creative Europe Programme of the European Union

www.spatialmedialabs.org

Field trip to Rotterdam Harbour, 29 November 2019. Photo by Louis Braddock Clarke.

S p a t i a l
Media Laboratories

EXPERIMENTS WITH REALITY AND BEYOND

Spatial Media Laboratories is a Rotterdam-based creative space that helps artists to develop and produce devices for unearthing invisible or inaudible phenomena.

SML

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BIOGRAPHIES

NABIL AHMED holds a PhD from the Centre for Research Architecture, Goldsmiths, University of London, where he is affiliated with Forensic Architecture. He is a Postdoctoral Fellow at the Academy of Fine Art in the Faculty of Architecture and Design at the Norwegian University of Science and Technology. He is also the founder of INTERPRT group, which investigates environmental crimes using spatial analysis and advocates for the criminalisation of ecocide under international law. The group collaborates with international lawyers, research centres, and civil society, such as Princeton Science & Global Security and Movement for the Survival of Ogoni People, and has exhibited projects at venues including Biennale Warszawa and the Beirut Art Centre. INTERPRT is commissioned by TBA21 – Academy. Ahmed has written for *Third Text*, *Candide: Journal for Architectural Knowledge* and *Architectural Review*, among others, and has been published in numerous books.

MARJA AHTI is a musician and composer living in Turku, Finland. Working with field recordings and other acoustic sound material combined with electronics and feedback, she investigates the borderland where sounds start to communicate. Her precise musical narratives float slowly mutating textures of detailed acoustic sound and intuitively-tuned, sustained tones. Gentle microtonal beats linger between the acousmatic and documentarist, in a realm of metaphor where sounds mirror each other and shadow-dance. Originally from Sweden, Ahti has been part of the Finnish experimental music scene for more than ten years, currently in Ahti & Ahti with her partner, and the Himera artist/organiser collective. Her debut under her own name, *Vegetal Negatives* (2019, Hallow Ground), explores a new formal language and sonic palette that strays far from the path of her earlier work.

FRANÇOIS BONNET is the artistic director of Groupe de Recherches Musicales of the National Audiovisual Institute in Paris and the curator of the Recollection GRM series on Editions Mego label. He produces music under the Kassel Jaeger pseudonym. His works are a complex balance of concrète experimentalism, ambient noise, and electroacoustic improv. Bonnet has written and edited several books about sound and listening – *Les Mots et les sons* (2012), *The Order of Sounds* (2016), *The Infra-World* (2017), *Spectres* (2019), *After Death* (upcoming 2020) – and regularly contributes to various publications. He teaches at the Université Paris 1 Panthéon-Sorbonne.

DEFORREST BROWN, JR. is a New York-based rhythmanalyst, media theorist, and curator. He produces digital audio and extended media as Speaker Music and is a representative of the Make Techno Black Again campaign. His work is concerned with speculative futures in performative contexts and programmatic intersections of technology and thought.

ROC JIMÉNEZ DE CISNEROS is an artist exploring the aesthetics of algorithmic composition and deconstruction of the rave culture. He has been part of the computer music group EVOL, with Scottish artist Stephen Sharp, since 1996. EVOL recordings have been published by record labels such as Editions Mego, Diagonal, Entr'acte, Presto!?, and ALKU, which he has co-directed since 1997. Roc's work is based on the notions of deformation, psychedelia, and synthesis.

T. J. DEMOS is a writer, curator, and Professor of Visual Culture at University of California, Santa Cruz, and Director of its Center for Creative Ecologies. He writes widely about contemporary art, global politics and ecology and is the author of *Against the Anthropocene: Visual Culture and Environment Today* (Sternberg Press, 2017) and *Decolonizing Nature: Contemporary Art and the Politics of Ecology* (Sternberg Press, 2016). Demos co-curated *Rights of Nature: Art and Ecology in the Americas*, at Nottingham Contemporary in 2015, *and* curated a selection of films, *Specters: A Ciné-Politics of Haunting*, at Museo Nacional Centro de Arte Reina Sofia in Madrid in 2014. He is currently working on a Mellon-funded research, exhibition, and book project, *Beyond the End of the World*, dedicated to the questions: 'What comes after the end of the world?' and 'How can we cultivate futures of social justice within capitalist ruins?'

TING DING is a Chinese-Canadian statistical analyst, photographer, and visual designer. As a co-founder of HECHA / 做, Ding's work considers the material composition of fashion production as well as the marketing and commercialisation of the brand.

DESIGN EARTH is a collaborative practice based in Ann Arbor, Michigan, and Cambridge, Massachusetts, and led by architects Rania Ghosn and El Hadi Jazairy. DESIGN EARTH literally means 'earth-writing', deploying geographic aesthetics as a form of environmental speculation in the age of climate change. The practice received a Young Architects prize from the Architectural League of New York. DESIGN EARTH have been commissioned by the Venice Architecture Biennale, Seoul Biennale of Architecture and Urbanism, and Oslo Architecture Triennale. Projects have been exhibited in international art spaces such as SFMOMA and Times Museum, Guangzhou, and acquired by the New York Museum of Modern Art. Ghosn is an Assistant Professor at Massachusetts Institute of Technology School of Architecture + Planning, and Jazairy is an Assistant Professor of Architecture at the University of Michigan. They co-authored *Geostories: Another Architecture for the Environment* (2018), 'a manifesto for the environmental imagination', and *Geographies of Trash* (2015).

HUGO ESQUINCA's 'research as intervention' / 'intervention as research' in sound explores different degrees of exposure to thresholds of indeterminacy, spectral de-gradation, erratic processing techniques, and excessive levels of amplification. Last year at Sonic Acts, he presented a sound piece *Deformation Studies on Dimension and Structure for Fifteen Point Three* (2019). This year, he performs *On A Psychedelic Becoming*, a multichannel compositional intervention based on 'A Psychedelic Becoming', the introduction of Yuk Hui's book *Recursivity and Contingency* (Rowman & Littlefield, 2019). Esquinca's work has been executed in different contexts, such as the Stedelijk Museum Amsterdam, National Centre for Contemporary Arts in Moscow, Ujazdowski Castle for Contemporary Art in Warsaw, and Haus der Kulturen der Welt and Berghain in Berlin.

AMIE GALBRAITH is a self-taught photographer based in Amsterdam. In 2012, while studying English at the University of Manchester, Amie began visiting a club night called Murkage and soon became its official photographer. Amie then moved to Amsterdam and started a photography internship at Mediamatic. She continued photographing parties at Bitterzoet, Club Up, Melkweg, Paradiso, and more. In 2016, *Vice* asked her to document mosh pits, ravers, and festival-goers for their online articles. In 2017, De Marktkantine commissioned Amie for an exhibition about their club space. She focused on their visitors' style. She was interested in how style can signify the safety of belonging to different groups of people and how a club can function as a safe space for communities to express themselves. The exhibition was in a club environment and emphasised the positive power of clubs. Over the past seven years, Amie has worked in a variety of club environments and witnessed many different dynamics, crowds, and communities. She is currently concentrating on a smaller range of communities, allowing for an in-depth enquiry into what club culture can mean to people.

MAIKA GARNICA is a Belgium-based sculptor and musician who explores the relationship between the environment, spectator, and artist. She often applies prototypes to comprehend the complex relationship between form and matter while instigating the position of the body as a vehicle for social connection. Through various contexts, the nature of her work shifts spontaneously from sculpture to objects to sound installation.

TERIKE HAAPOJA is a visual artist based in New York. With a specific focus on encounters with nature, death, and other species, Haapoja's work investigates the existential and political boundaries of our world and raises questions about how different structures of exclusion and discrimination function as foundations for identity and culture. The notion of a world that is deeply rooted in the co-existence of beings and their multiple lifeworlds is at the core of Haapoja's politically and ethically driven practice. Collaborations with author Laura Gustafsson, under the name Gustafsson&Haapoja, explore problems arising from the anthropocentric worldview. Haapoja represented Finland at the 55th Venice Biennale with a solo show in the Nordic Pavillion. Her work has been awarded prizes, including the ANTI Prize for Live Art (2016) and the Dukaatti Prize (2008). In 2018, she initiated and co-facilitated Art For Equality, an ongoing process for Helsinki art institutions. She supports the BDS movement and has been involved with the Gulf Labor Coalition. More recently, she has been involved in the work of Extinction Rebellion New York. She is an adjunct professor at Parsons Fine Arts and NYU, New York.

DEHLIA HANNAH is a philosopher and curator based in Copenhagen. She holds a PhD in Philosophy from Columbia University and is currently research curator for the Centre for Environmental Humanities at Aarhus University, Denmark. Her publication, *A Year Without a Winter* (2018), was initiated at Arizona State University during her visiting assistant professorship with the School for the Future of Innovation in Society and the School of Art, Media, and Engineering. Her work examines ideas of climate change, nature, and the environment through aesthetics and the philosophy of science.

ANJA KANNGIESER is a political geographer and sound artist based in Wollongong, Australia, who creatively investigates space and politics. In their work, Anja begins with the premise of sound as a constant, a phenomenon that is always present – whether heard, felt or sensed by human or non-human species and technologies. Their most current projects use testimony, field recording and data sonification to document and amplify social justice responses to the effects of climate change in the Pacific. In their first book, *Experimental Politics and the Making of Worlds* (2013), they open up communication between urban groups to find common sites for protest around precarious living and working conditions, migration, and higher education. In their most recent project, *Climates of Listening*, community-orientated social justice responses to climate change in the Pacific are amplified. Anja is a Vice Chancellors Fellow at the Australian Centre for Cultural Environmental Research at the University of Wollongong, Australia. Their writing is widely published.

LUKÁŠ LIKAVČAN is a researcher and theorist who writes on the philosophy of technology and political ecology. Concluding his PhD in Environmental Studies at Masaryk University, Brno, he now teaches at the Center for Audiovisual Studies at FAMU in Prague and Strelka Institute for Media, Architecture and Design in Moscow and is a graduate of their experimental programme The New Normal. He has held research positions at Vienna University of Economics and Business, Hong Kong Polytechnic University, and BAK – basis voor actuele kunst, Utrecht. Oscillating between academic practice and the broad zone between art and design, he focuses on infrastructural conditions of subjectivity, abstraction, and imagination. Likavčan has just released a book, *Introduction to Comparative Planetology* (Strelka Press, 2019), that presents an analysis of visual cultures of imagining the Earth and the geopolitics of climate emergency.

MÆKUR is a collaborative project of Maia Urstad, Eva Rowson, and Anton Kats. The collective synthesises artistic, sonic, radiophonic, and curatorial practices to research and respond to communication technologies, archival practices, and ways of listening. MÆKUR are interested in how ways of listening are changing as new communication technologies outmode current forms, and what consequences this has for the signals, voices, and histories that keep sounding and those that are lost. At the core of the MÆKUR collaboration is an ongoing archive to gather and emphasise multiple soundings of technical development and the different communities that assemble around it. MÆKUR develop site-specific interventions and research, embracing amateur radio networks, concerts, interviews, and sound interventions. Previous residences include Bergen Kunsthall, Norway (2018), and Lighthouse, Brighton, UK (2019), as part of *Who's Doing the Washing Up?*, which is artist commissioning programme on the politics of institutional re-imagining.

American composer and musician **KALI MALONE** is based in Stockholm, where she implements unique tuning systems within minimalist forms in digital-analogue synthesis. Using synthetic and

acoustic instrumentation, such as the pipe organ, string and wind instruments, Malone's rich harmonic textures emit an emotive hue both static and captivating. Her recent releases, *The Sacrificial Code* (2019, iDEAL Recordings), *Cast of Mind* (2018, Hallow Ground) and *Organ Dirges 2016–2017* (2018, Ascetic House), were described in *The Wire* as 'rich with the kind of divinity only discovered alone, in an inner wilderness; a holy modal communion with sound and space itself' and by *Boomkat* as 'slowly unfolding electro-acoustic landscapes that externalise a highly personalised form of emotive topography'.

DANIEL MANN is a London-based filmmaker and writer. He explores the role of image production and circulation in shaping collective perceptions of armed conflict, colonisation and climate emergency. His work in film and writing appeared in many journals and has been screened internationally at film festivals and venues, such as Berlinale (Forum), The International Film Festival Rotterdam, Cinema du Reel, New Horizons, and the ICA, London. Mann holds a PhD from the Centre for Research Architecture at Goldsmiths College, London. Currently, he is a Leverhulme Early Career Fellow at the Film Studies Department at King's College London where he is developing a new project that focuses on the role of Middle Eastern desert environments in cinematic depictions of war, conflict, and future annihilation.

SADAF H NAVA (SADAF) is an Iranian-born, New York City-based composer and visual artist whose multidisciplinary interventions include sound, film, painting, performance, and text. Sadaf's layered and cinematic visuals, sonics, and confrontational performative tactics oscillate between opacity and narrative. Her work upends the inward-looking affect inherent to contemporary performance, subverting the languages of auto-fiction and the artist/muse. These original compositions comprise intuitive and clashing material inspired by contemporary global archaeologies of sound, always flirting with noise. Her painting and other visual work is similarly improvised, concentrated on self-portraiture, fragmented narratives, and re-enacted memory. Exhibition and presentation venues include MoMA PS1, Performa, and 9th Berlin Biennale. Her first full-length LP, *History of Heat* (Blueberry Records), came out in 2019 and debut EP, *SHELL* (Outside Insight), in 2017.

LAG OS (RUBÉN PATIÑO) is an Amsterdam-based artist who incorporates club culture and contemporary art in electronic music. As Lag OS (Anòmia, Haunter Records), Patiño, explores soundscapes in recreating artificial environments, muddling abstract sound with ambient and amorphous club music. He is part of N.M.O, a 'Fluxus techno/military space music' unit that, together with Morten J. Olsen, presents in museums, clubs, and festivals internationally.

HELEN PRITCHARD's work brings together the fields of computational aesthetics, more-than-human geographies, and queer trans*feminist technoscience. Her practice considers the impacts of computation/computational art on the figuration of environments and environmental justice for the development of inventive methodologies that propose otherwise. She is co-editor of *Data Browser 06: Executing Practices* (2018) and a special issue of *Science, Technology and Human Values* on 'Sensors and Sensing Practices' (2019). Pritchard is the Head of Digital Arts Computing and a Lecturer in Computational Art at Goldsmiths, University of London. Together with Femke Snelting and Jara Rocha, she activates the creative research group the *Underground Division*.

JARA ROCHA works through the situated and complex forms of distribution of the technological with a trans*feminist sensibility. With a curious confidence in transtextual logistics and a clear tendency to profanate modes, she tends to be found in tasks of remediation, action-research, and in(ter)dependent writing. Main areas of study have to do with the semiotic-materialities of cultural urgencies. Together with Femke Snelting and Helen Pritchard, she is currently active in the *Underground Division*.

NADIM SAMMAN is a Berlin-based curator and art historian. He read Philosophy at University College London before receiving his PhD from the Courtauld Institute of Art. He co-founded the 1st Antarctic Biennale (2017) and the Antarctic Pavilion (Venice, 2015). He curated the 5th Moscow International Biennale for Young Art in 2016 and the 4th Marrakech Biennale (with Carson Chan) in 2012. Other major projects include *Treasure of Lima: A Buried Exhibition* (a unique site-specific exhibition on the remote Pacific island of Isla del Coco) and *Rare Earth* (at Thyssen-Bornemisza Art Contemporary, Vienna). In 2014, *Foreign Policy Magazine* named him among the '100 Leading Global Thinkers'.

FEMKE SNELTING works at the intersection of design, feminism, and free software. She explores how digital tools and practices might co-construct each other. She has been a member of Constant, a Brussels-based association, since 1997. With Jara Rocha, she activates Possible Bodies, a collective research project that interrogates the concrete and fictional entities of bodies in the context of 3D tracking, modelling, and scanning. With Helen Pritchard, she extended this project and turned it into the *Underground Division*, an unruly team of trans*feminist technoscientists and parahumanists that investigates technologies of subsurface rendering and its imaginations, fantasies, and promises. Femke teaches at XPUB (Experimental Publishing master's) in Rotterdam and a.pass (Advanced Performance and Scenography Studies) in Brussels.

LAURA BENÍTEZ VALERO holds a PhD in Philosophy. Her current research focuses on bioart, biohacking, processes of bio-resistance, bio-civil disobedience, and non-human agents. She is a lecturer in Critical and Cultural Studies at Massana (Art and Design Centre) and an external lecturer in Technology at the Elisava Barcelona School of Design and Engineering. She has been a guest researcher at the Ars Electronica Centre and MACBA's documentation centre and was a visiting lecturer and researcher at institutions such as Interface Cultures Kunstuniersität Linz, Sónar Festival (Bcn/Hong Kong), Royal Academy of Arts London, and University of Puerto Rico. She is collaborating on different research projects, academic and autonomous alike, and is a regular collaborator at Hangar.

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