

Where is the
Planetary?

A Gathering

In Collaboration
with Koki Tanaka

Oct. 14–16, 2022



EN

04 Curatorial Statement

07 Program:
Where is the Planetary?
A Gathering

Research Notes

09 Introduction

10 Togetherness

↗ Koki Tanaka

11 Collaboratory

↗ TINT

12 What Are the Conditions
for Habitability?

↗ L. Sasha Gora
↗ Patricia Reed
↗ Fernando Silva e Silva
↗ Simon Turner
↗ Mi You

16 How Can Habitability Be
Measured?

↗ Sophia Roosth
↗ Nikiwe Solomon
↗ Mark Williams
↗ Gary Zhexi Zhang

20 What Planetary Damage
Can Be Repaired?

↗ Mohammad Al Attar
↗ Lisa Baraitser
↗ Orit Halpern
↗ Valentina Karga
↗ Margarida Mendes
↗ Nishant Shah

26 Who Gets to Decide What
Actions Are Taken?

↗ Felipe Castelblanco
↗ Maria Chehonadskih
↗ Kai van Eikels
↗ John Kim
↗ Francine McCarthy
↗ Adania Shibli

32 How Do We Tell Planetary
Stories?

↗ Ravi Agarwal
↗ Myung-Ae Choi
↗ continent.
↗ Claire Pentecost
↗ Rebecca Snedeker

38 Visuals

44 The Anthropocene
at HKW

45 Biographies

48 Team & Imprint

A Planetary Praxis in the Anthropocene

Katrin Klingan, Nick Houde, Janek Müller, Neli Wagner

“Becoming planetary is a way to consider how the planetary is not a uniform or fixed set of conditions, but rather signals conditions of difference, as well as collective responsibility and possibility with and through those differences.”

– Jennifer Gabrys

In the present age, planet Earth appears like an anthropogenic sculpture. There are no landscapes, no spheres of material or life, that human activities have not transformed and reshaped. The traces of technologies and economic activities and their cosmological motivations can be read from the sediments, ice sheets, and oceans. All the while, global production chains and relationships of exploitation let us bear witness to violent processes of colonial land seizure and labor expropriation. Consequently, the challenges of the Anthropocene can be understood only from a planetary perspective cognizant of social and geopolitical connections and their feedback effects.

Where is the Planetary? asks about the malleability of these connections. Here, the question of the “where” of the planetary refers less to topography than to topology. The “planetary” is a dimensional category in only one respect, as it is also a formulation of relationships. The external, scaling gaze is always in danger of suggesting power and feasibility. However, this gaze also carries within it the failure of a specific cosmology in which Earth is steadfastly available for land seizure and exploitation. Pandemic(s), resource conflicts, climate change, and war now accompany a new understanding of Earth as a planet that is fragile and capable of change. Therefore, a genuinely planetary perspective is sensitive to cosmological diversity – it undermines the anthropocentric worldview and develops an interdependent understanding of terrestrial life on the planet.

Against this background, *Where is the Planetary?* embarks on a collective search for a model for successful cohabitation. It is less about practicing a “planetary gaze” than convening a “planetary gathering” that is conscious of its involvement in producing itself within the polyphony of planetary relationships with a collective praxis. The Earth system processes, triggered and drastically accelerated in the Anthropocene, make it more than

clear that the planet is not an object but a network of relationships: an interplay between diverse cohabitation constellations, of friendship and biome, of exchange and robbery, of kitchen and hospital, of market and laboratory. In this sense, a planetary praxis always means relationship-building.

But how to begin?

The planetary, as a mode of thought, has a long and varied history of holistic approaches that, beyond the concepts of “world,” “Earth,” and “globe,” have recognized the references and relationships of human existence in the universe. In recent history, these have included the terraforming hypotheses of Carl Sagan and the Spaceship Earth concept of design theorist Buckminster Fuller; the perspectives of thinkers such as Gayatri Chakravorty Spivak and Dipesh Chakrabarty, informed by post-colonialism; through to Bruno Latour’s engagement with planetary forms of governance.

The search for a manifold and anti-authoritarian approach to the planetary is above all oriented by philosopher Sylvia Wynter’s motif of “being human as praxis.” This is a praxis that continually invents new forms and paths of collaboration. In essence, the turn to the planetary dissolves the anthropocentric worldview and instead proposes an interdependent understanding of terrestrial life on the planet. We understand *Where is the Planetary?* as an attempt and an invitation to embrace the planetary and assert the possibility of such a praxis. The precondition for this attempt is an engagement with cosmologies that lend space and meaning to planetary history. Cosmologies place “being human” in relationship to the geophysical and biological conditions of life, and thus shape the very possibility and form of a planetary praxis. In cosmologies, the interplay between material and symbol, biology and meaning – which characterizes human life and collective living – is condensed. These categories are paradigmatic for the human attribute of impacting the material environment, through the collaborative production of knowledge and its dissemination and application. We think that the recognition of the potent character of these cosmological orders and narratives are essential to the search for models of successful interhuman and cross-species cohabitation.

Where is the Planetary? asks how a successful planetary habitability can be expressed compositionally and cosmologically, both as a political demand and as a geophysical reality. The event looks for coordinates and intersections, convergences and tensions, that are generated when countless cosmologies group around a collective planetary cosmology.

Experimental setups

We have invited the artist Koki Tanaka to develop a series of experiments through which a planetary praxis can be brought to light. In his temporary installations and constellations, Tanaka looks for utopian moments and situations of communality, whereby the objects of his observations are essentially everyday work sequences and procedures asking: How can we negotiate the dimensions of planetary decision-making in moments of exhaustion and overload resulting from the repetition of physical activities? What insights into the use of resources and the conditions of planetary habitability can we gain from collaborative work on a soup recipe?

By removing these everyday activities from their ordinary, self-evident context, Tanaka reveals their hidden potential for exchange and transformation. His method resembles that of an “alchemy of cooperation,” which never loses sight of its utopian aim of successful togetherness and, in the process, continually and unintentionally generates situations, moments, and gestures of understanding.

An essential component of Tanaka’s experiments is the constant presence of film cameras, which, within the context of *Where is the Planetary?*, are operated by the artist together with the film collective TINT. The filming and being filmed interrupt the self-evident character of the activity sequences and direct attention to the particular habitual and abnormal features of togetherness. The *Where is the Planetary?* event is simultaneously a film set in which the borders between participant, public, and film crew become blurred – that is, they are negotiated live. Thus, a collective situation emerges that sharpens awareness for the present and its possibilities. In this sense, the film crew are simultaneously witnesses and protagonists who affirm the collective acts of searching in the present and archive them for the future.

Looking for the planetary

The *Where is the Planetary?* participants will link Koki Tanaka’s experimental setups to the theoretical examination of planetary conditions. On the basis of five central questions, the event attempts to outline the cosmological and material conditions of a planetary praxis through collective activities and thought exercises. These questions serve as both a research assignment and an organizing principle for *Where is the Planetary?* They structure the discursive space within which the planetary praxis could unfold.

What Are the Conditions for Habitability?
↗ Introduction, Page 12

How Can Habitability Be Measured?
↗ Introduction, Page 16

What Planetary Damage Can Be Repaired?
↗ Introduction, Page 20

Who Gets to Decide What Actions Are Taken?
↗ Introduction, Page 26

How Do We Tell Planetary Stories?
↗ Introduction, Page 32

Along these questions, and under the direction of Tanaka, the HKW’s Auditorium becomes an intermediary space in which discourse and gesture combine in order to collectively seek out the “responsibilities and possibilities” (Jennifer Gabrys) of a planetary praxis.

Ravi Agarwal • Mohammad Al Attar •
Lisa Baraitser • Felipe Castelblanco
• Maria Chehonadskih • Shadreck
Chirikure • Myung-Ae Choi • continent.
(Jamie Allen • Paul Boshears • Lital
Khaikin • Nina Jäger • Anna-Luise
Lorenz) • Kai van Eikels • L. Sasha
Gora • Orit Halpern • Valentina Karga
• John Kim • Francine McCarthy •
Margarida Mendes • Claire Pentecost •
Patricia Reed • Sophia Roosth • Nishant
Shah • Adania Shibli • Fernando Silva
e Silva • Rebecca Snedeker • Nikiwe
Solomon • Koki Tanaka • TINT • Simon
Turner • Mark Williams • Mi You • Jan
Zalasiewicz • Gary Zhexi Zhang

Where is the Planetary?
A Gathering
In Collaboration
with Koki Tanaka

How could collaboration maintain a habitable planet?

What concepts of the world underlie political and social approaches to a changing Earth system? How can a variety of worldviews be transformed into shared planetary-scale practices that could address the current challenges?

Where is the Planetary? is a collective search for models of living together on Earth. Following five central questions, researchers, artists, and activists seek ways to transform the multitude of perspectives and cosmologies into a common agency.

What Are the Conditions for Habitability?
How Can Habitability Be Measured?
What Planetary Damage Can Be Repaired?
Who Gets to Decide What Actions Are Taken?
How Do We Tell Planetary Stories?

Artist Koki Tanaka has designed five experimental settings for these questions. Over the course of three days, the Haus der Kulturen der Welt (HKW) will turn into a rehearsal room for planetary praxis. An integral part of Tanaka's settings is the presence of film cameras. In collaboration with the film collective TINT, the artist continuously disrupts the supposed self-evident nature of routines and directs the (camera's) gaze toward the particular gestures of togetherness. Against this background, participants collaborate to develop perspectives and practices that take into account not only the systemic processes of Earth but also the cosmological preconditions of its inhabitants. This does not imply striving for a new universalism but rather calls for the courage to imagine a composite of different, even divergent, ways of world-making. *Where is the Planetary?* asks anew the old question of "How do we live together?" and opposes reductive anthropological models with a decentered and plural approach of "being human as praxis" (Sylvia Wynter).



↗ Program

Research Notes

The notes in this booklet assemble positions, initial thoughts, and proposals of the participants of *Where is the Planetary?* In these texts, the authors begin to work with the five guiding questions based on their respective fields and methods of work, preparing the ground for moments of provocation and collaborative learning. This project, as a combination of discursive and practical modes of communication among a group of international researchers, Earth scientists, curators, and artists, invites everyone to engage with the Research Notes as preliminary orientation points and tentative guidelines for change.

Throughout the event, the notes will serve as a tool. We hope to depart from these individual inputs – which speak to a plethora of environmental, cultural, and socio- and geo-political issues of a planetary present – to track how the collaborative process of *Where is the Planetary?* and the discussions it spurs could transform these thoughts into a fruitful synthesis. Such a process, we hope, will lead our efforts closer to a composite understanding of a planetary future.

Togetherness

Koki Tanaka

I have been exploring the question of *togetherness* in various ways, by organizing impromptu gatherings or, one could say, temporary communities. To be with someone is to step outside convention and throw oneself into the process of negotiating with others or an unknown situation. Being together is full of impossibilities. Most of the time we are either hostile or accustomed to each other. We either divide or become a closed circle. Is it possible to maintain a critical distance from someone and still be open to them? Our potential might be somewhere between close friendship and antagonism, so to speak.

I never expected the idea of the Anthropocene to intersect with my artistic practice. Most of my projects have focused on group dynamics. I have not had a relative perspective on human existence, be it the idea of post-humanism or collaboration between humans and nonhumans. But I do interpret the “planetary thinking” perspective advocated in *Where is the Planetary?* in this way. I think of it as an act of unraveling the parameters of our customary thinking. It lets us open our eyes to the planet (or on “the world”) as well as human existence. The situation of *togetherness* that most of my practice plays around can be a place to re-examine human activities and rethink human relations.



➤ Page 38

A workshop in general is a making of space for gatherings and also for collaboration with others, while a film shoot is a device to make one's actions conscious. In designing the overall structure of *Where is the Planetary?* as a live event, I use both forms to generate the complex situation of human activities. A film shoot is an extra layer to the live event. It's a tool, a springboard for participants. The presence of cameras makes us aware that our actions are being recorded. Usually, we are not that conscious of our presence. The camera makes us very aware of what we say, what we do, and even what we are. Not only the protagonists, facilitators, and audience but also the film crew, HKW staff, and myself become very aware of our presence. With this awareness, we can all break out of our daily routines. I hope that it might open up opportunities to speak what cannot be spoken, to see what cannot be seen, and to become aware of uncertainty.

Collaboratory

TINT

Filmmaking is a world on its own, a little planet that mirrors the power structures of the surrounding world. Large parts of the industry are based on growth, intense power hierarchies, and playing it safe with stories proven to work for a big audience.

In our work and in our ways to organize ourselves as a queer feminist collective, we seek to come up with alternative ways of making films. Of course, we're not outside the system – nobody is – but we try to not fall into all of its traps. We try to find different forms of working together, regarding collaborations, our choice of topics, and ways of representing and positioning.

We are very attached to the ideas and experiments around co-creating at the core of Koki Tanaka's project and work: collaborating, sharing knowledge, views, and skills, creating and envisioning in an interdisciplinary setting.

So what does, or do, TINT seek?

It, or we, or they, seeks or seek new forms of working together – which actually aren't that new, as collectives have been around for quite a while, historically formed by persons and groups who don't fulfill the mythical norm, that is, persons affected by sexism, queerphobia, racism, ableism, and classism.

To be aware of the societal structures that define us and everyone else, and to counteract them in ways that are often small, but meaningful to us and to our collaborators.

To take the space that would often be reserved for big director egos, and to transform it into a space for exchange where we experiment with authorship and creative practices.

To bring underrepresented perspectives and issues to the screen, such as struggles for reproductive justice and abortion rights, lesbian art of the 1980s, collective and precarious working practices.

To be mindful of the intense material, emotional, and mental resource needs of the film industry, and to find alternatives to this, as best as we can.

To listen to each other and to others around us and ask: What do you know that I or we don't know, and what do you need? Not to assume the answers, but to observe and listen, to educate ourselves.

To come up with ideas to lessen or deconstruct or poke at hierarchies, and with schemes for a fairer and more equitable work- and income-distribution system. Each of us earns the same amount in our film productions, and we seek to share work according to needs, not wants.

To be conscious of the power asymmetry that recording devices and situations create, and to provide respect, sensitivity, and comfort to the people we work with.

So we seek, and try, and succeed, and fail, and fail, and succeed, and most often we're in some place in between: within a hue, a shade, a tint of that spectrum.

What Are the Conditions for Habitability?

The biochemical preconditions for the continuance of life on the planet can be clearly outlined. But how do these material “planetary limits” behave in conjunction with the immaterial planetary conditions of ways of living, values, and political systems? What possibilities exist for productively thinking of these spheres in their connections?

Salt to Taste

L. Sasha Gora

If you were to write a recipe for planetary life, where would you begin? Which ingredients would you cast and which system of measurement would you use? Cooking is physical. It is intimate and comforting, but it is also dangerous. You have to trust your nose to know that the milk isn't off. You have to depend on thick mitts or folded towels to prevent the pan from burning your fingers. Culinary knowledge is embodied. Yet recipes try to translate this knowledge into words. Cookery collections seek to preserve arrangements of plants and animals within dishes with fixed names and easy-to-follow steps. But a recipe is not just a series of instructions – it is also a metaphor. So, to repeat the question: What is the recipe for planetary life? What are the conditions of habitability that it requires?

“Salt is born of the purest of parents: the sun and the sea,” wrote Pythagoras of Samos. This ancient Ionian Greek philosopher lived from circa 570 to circa 495 BCE. But what happens to salt's “pure” parents as the sun shines brighter and the sea grows hotter? What happens when temperatures continue to increase and the seas abandon a steady simmer for a raging boil? Salt is often the not-so-secret ingredient in snacks you keep coming back for more. That trigger your thirst. But what if there is no more *more*?

Salt influences how other ingredients behave. Too little and it tastes like something is missing. Too much and your mouth experiences drought. Salt is, therefore, a balancing act. It enacts limits and guards the middle ground between too little and too much. Yet it is also personal, a matter of opinion, a matter of taste. One person's too much is another person's too little. Because of this, salt breaks down a recipe's rules. “Salt to taste,” many instruct, leaving room for tweaking, for discretion. How much salt does a recipe for planetary life call for? Or does the recipe leave it up to us to taste? To adjust and to tweak in an effort to find balance, or to find it again.

I am a cultural historian who studies food, which means I also study ecological constraints and their relationships to culinary cultures. A cuisine, in many ways, is a cluster of borders and boundaries based on geography, culture, religion, seasons, social norms, and more. Borders signify limits. They actively divide, separate, and define. Recipes map borders and impose boundaries. The need for substitutions archives loss and transformation. But what is a substitute for salt? What happens when there is no substitute?

Constructing Planetary Space

Patricia Reed

Asking “Where is the planetary?” implies a certain figuration of space within which to locate something. This simple implication provokes a more difficult problem: What is planetary space?

My research flows from such a problem for two reasons. The first concerns the relation between the reinvention of space belonging to Long Modernity (from Renaissance perspectivalism, to the infamous grid, through to today's modeling software applications) and the co-emergence of an image of “Man” as the construction of Euro-humanism, which has since punitively manifested as a globally scaled, economically neoliberal, monohumanism.¹ This historical co-emergence suggests that Euro-humanist “Man,” as a once abstract, purely philosophical invention, gained heuristic traction (for better and for worse) because it emerged alongside a representational space within which to embed and practice itself and to experience reality.

The provision of a particular space of embedding is what enabled the behavioral, material, and practical ramifications of a once purely “ideal” human self-image of “Man.” Succinctly put, it is this space that afforded the localization of such a concept as “Man,” rendering the concept practicable and realizable – especially including its space of reasoning. The second purpose derives from the first account, insofar as if we are to posit “the planetary” as an index for paradigmatic sociohistorical transformation (and not only a geo-epistemological recognition), we require commensurate spatiotemporal figurations to embed and relocalize ourselves as well as our relations with reality. If every historical episteme ushers in distinct discursive practices, then activities need to be embedded somewhere and somethen to be practicable. This way, we may surmise that every historical epoch must also construct its own distinctive space for localizing reason, positionality, relationality, and activity to gain realizable, that is, more than sheer discursive, purchase.

Rather than pitting the global against the local (or vice versa), the planetary compels a thinking of spatiotemporal entanglement – a genre of thinking that combats a false imaginary of the planetary as synonymous with sheer largesse, thereby eclipsing “the local.” Conversely, such high-dimensional space endemic to planetary entanglement deeply troubles what is commonly understood as “local” within the ongoing legacies of Euro-humanist spaces of representation and reason. How are we to develop procedures of localization for

such a planetary spatial-episteme that can embed, both conceptually and materially, practices of inhabitation otherwise? How would such planetary space of re-embedding affect cosmogonical self-narrations at the juncture between historical worlds, and what affordances are made possible as a result? How would such spaces of entanglement recondition ways of sensing and sense-making from within high-dimensional coordinates?

- 1 This notion (and force) of the figuration "Man" is indebted to the work of Sylvia Wynter. See Sylvia Wynter, "On How We Mistook the Map for the Territory," in *Not Only the Master's Tools: African American Studies in Theory and Practice*, eds. L. R. Gordon and J. A. Gordon. Boulder: Paradigm, 2006, pp. 107–69.

Keeping Earth Hospitable

Fernando Silva e Silva

From a scientific perspective as well as from a philosophical one – thinking, for example, through Earth system science, ecological evolutionary developmental biology, and certain kinds of environmental philosophy – habitability, of the Earth in general or an environment in particular, is not a set, preexisting condition but rather a coordination of ever-changing characteristics. These characteristics, of course, make an environment habitable for some beings and not others. There is no habitability in itself; it is a quality that must always be considered relatively.

More importantly, the ever-changing aspects of the habitability of a given environment, or of the Earth in general, are the result not of a remote mechanized process that happens "naturally" but of an interchange between environments and the living and nonliving entities that inhabit this planet. The living Earth as we know it is the result of a long, collective process of *terraforming*, which could be achieved only through the concerted effort of the beings that inhabit it, every day making this planet more Earth-like, more home-like.

The reason why the epochal shift of the Anthropocene is a crisis is because it signals the beginning of a process of *xenofarming*, as this planet becomes alien to us humans as well as other living beings that thrive in the climatic conditions of the last thousands of years, or as we become aliens to it, un-Earthed, without a home. The Anthropocene was brought upon not by humans in general but by the spreading and dominion of a set of ways of inhabiting this Earth, created by and for certain

humans, their companion species, their technologies. *Capitalforming* the Earth has made it gradually become something not itself, as forewarned by the uncountable victims of colonial capitalism who still find their words ignored.

However, if the planet's biogeochemical cycles can be radically changed by certain ways of inhabiting the Earth, and if habitability is not predetermined but rather a co-creation – the result of innumerable lifeways coming together, shaping the Earth – then it should also be possible to reactivate, foster, protect, and let bloom ways of inhabiting that would once again terraform it. To achieve this goal, to keep the Earth hospitable, regenerating habitability, we who inherited the modern ways of inhabiting must learn the art of hospitality. After all, regeneration, especially at this scale, is collective work, and one humans are not capable of doing alone.

Against the monoculture of modes of inhabiting, we need a prairie, a tropical forest, or a coral reef of modes of inhabiting! All species, all beings, living and nonliving, care for this Earth in their particular way, shape it, for the sake of their own persistence and for the persistence of all of us. We must learn to respect their powers, leave space open for them, be attentive to what makes their *terraforming* efforts possible, even if – especially if – it means completely changing our ways of inhabiting this Earth.

Food, Others, and the Potential to Adapt

Simon Turner

The past tells us habitability is a slippery beast. The rock record is alive with the remains of environments spanning vast periods of time when conditions were just so for species to evolve, adapt, and thrive. Conversely, stratigraphic boundaries determined for periods of time are often evidence of the conditions of habitability ceasing, sometimes with whole classes of organisms disappearing due to an abrupt or gradual change in environmental conditions. Every living thing that currently exists on planet Earth should be thankful that over the last 4 billion years or so, the planet has always had a place that remained habitable during global glaciations, acidified oceans, volcanic eruptions, and asteroid impacts. The conditions for habitability on this planet will only really be exhausted on a timescale dictated by our local star's demise. It's

nothing to cheer about, but even under the worst climate change scenarios, our species will persist to outlive the knowledge of our current situation.

Habitat change and adaptivity of species can occur quickly but can rarely adjust to the rates of destruction and change that have occurred in the last century. Unlike any other species in the evolution of our planet, we, however, do know what has forced this recent change in our conditions of habitability. Evidence of the processes that have created the Anthropocene and global shifts in habitability are real and ubiquitous – recorded not just chemically in remote polar ice cores or contaminants found in the deepest parts of the ocean, but also in forests cut for agriculture, losses in biodiversity, and everywhere in the infrastructure of expanding urban ecosystems. The fossil-fuel-driven explosion in the mid-twentieth century of population growth, land-use change, resource extraction, and waste production have occurred within a lifetime, and we are all now in the foothills of the growing mountains of environmental change that will challenge every habitable space on the planet.



↗ Page 40

We can, however, ask what has happened, conceive what adaptations will be required, what changes will occur, over what timescales, and even plot out future trajectories of habitability based on choices we make now. Often too much is made of how clever and destructive the Anthropos is, separate somehow from the rest of the evolutionary wonders that make up our planet, but in terms of having a conscious understanding of our future planetary existence, and more importantly, the ability to do something about it, we are universally¹ unique. Our longing for habitability and adaptability that has served us so well so far will be what moves us through this new geological reality.

- 1 Pending.

The Generic and the Planetary

Mi You

Multiple transformation processes take place in food, at the molecular level and at the social level. Add the temporal dimension, and fermentation manifests the transformation of the participating entities even more visibly. My proposition is to take this recipe as a figuration and to zoom into the molecular and the social processes, and the oscillation between the becoming and the generic. The former is well represented in poststructuralist theory, while the latter, drawing on François Laruelle, suggests something rather counterintuitive: one, indivisible, generic, and ordinary subjectivity that sacrifices selfhood to allow other subjectivities in a common multiplicity to emerge.

... and to zoom out into a speculative inquiry. Planetary-scale planning is to be employed while allowing different localities to engineer themselves. In the emergent system, there is no *a priori* categorical boundary between individuality and collectivity, but only emergent ecological patterns to be designed. It is a stack of different layers, which could be outlined in two categories: macro-strategic and micro-tactical. Macro levels operate through mathematical exactitude, while micro levels are locally more resilient, hosting more heterogeneous actions and productions that are constantly forced to negotiate with others, mixing, hybridizing, coagulating in clusters constantly corrupted or challenged from within. The higher the level, the more strategic its operations are, with tendencies and constraints defined by ecological performance. The lower the level, the more tactical and resilient its frameworks are. The myopic desires of the subject are subjected to the macro logic of ecological balances. Ecological and economic burdens as well as benefits are to be collectively shared. Economy and ecology are fused, with an ecology transformed into an economy of means, and an economy completely subsumed within ecological affordances – taking the physical world in its transformations and energetic potentials as the *a priori* scaffolding superstructure onto which formalized relations are affixed. An organized complex, open yet structured – tektology à la Alexander Bogdanov – that synthesizes as it moves into the future.¹

- 1 Part of this text is excerpted from "sg_DAO.Inc" (with Federico Ruberto), in Joella Kiu, Kenneth Tay, and Mi You, eds., *Lonely Vectors*. Singapore: Singapore Art Museum, 2022.

How Can Habitability Be Measured?

Planetary thinking promotes the bringing together of forms of knowledge and content while taking into account the local peculiarities of places, communities, and ecologies. How can knowledge at the planetary level be effectively and respectfully negotiated between different perspectives?

Is There Life on Mars?

Sophia Roosth

Questions about the origins of life on Earth are inextricably bound to questions about whether and how life might have emerged elsewhere. Rarely is the question of what life is separable from the question of the conditions in which it can survive, let alone thrive. As such, scientific definitions of habitability are the molds in which definitions of life are cast, each impressed into the other. When NASA first launched its inquiry into the possibility of life beyond Earth in 1964, Earth scientists were among those scientists first tasked with determining the scientific value of looking for life on Mars. Is it, they inquired, worthwhile to “approach the prospect of Martian exploration as evolutionary biologists” in order to test the hypothesis that “the origin of living organization is a probable event in the evolution of all planetary crusts that resemble ours”? In the resulting report, Daniel Mazia, a cell biologist at the University of California, Berkeley, fixed on traces of biotic form to answer his question. Scientists may be able, he argued, to “deduce from fossil shadows the forms and ways of life of organisms that have long ago surrendered survival to durability. [...] Complex forms are always taken seriously as signs of living things. We can be moved by fossil forms and find a singular beauty in form that is congealed in time.”¹

While it may at first seem that the search for life on other planets might demand a universalizing, decontextualized, or formal definition of life, inquiries into extraterrestrial life are rarely context independent. Rather, informed by geobiological and biogeochemical thinking that life is a phenomenon inextricable from and mutually constitutive of planetary history, Earth scientists, since the mid-twentieth century, have conceptualized life as symptomatic of certain kinds of planetary histories: life is a phenomenon involved in its very planetary contexts. Indeed, it was at this same NASA meeting in 1964 that chemist James Lovelock began formulating the Gaia hypothesis, for which he joined forces with evolutionary biologist Lynn Margulis. In its earliest iteration, Lovelock's hypothesis posited that if life had ever existed on Mars, then one sign of it would be modifications in the gas composition of that planet's atmosphere. More provocatively, he and Margulis together posited that life is a *planetary event*, that “Earth's atmosphere is [...] produced by the biosphere for the biosphere.”² On this reading, the twinned questions of life and habitability engender not only a biopoetics, or discourse, about life but also a biopoiesis – the sort of complex and relational ecologies in which living things thrive and, in so doing, further reinvigorate the atmospheric and ecological conditions that make them

possible. In all life, as in discourse, meaning manifests not in texts but in contexts.

- 1 Daniel Mazia, “What Is Life?,” in *Biology and the Exploration of Mars*, by the National Research Council. Washington, DC: National Academies Press, 1966, p. 30.
- 2 Lynn Margulis and James Lovelock, “Atmospheres and Evolution,” in *Life in the Universe*, ed. John Billingham. Cambridge, MA: MIT Press, 1981, p. 96.

The Case for Situated Knowledge in Understanding Urban Metabolisms

Nikiwe Solomon

The conceptual separation between society and nature (through disciplinary expertise or silos), which forms a particular local expression of what some scholars call the Anthropocene¹ and others the Capitalocene,² needs to be rethought (in many cases this work is already being done). In the course “Researching the Anthropocene,” run by the Environmental Humanities South program at the University of Cape Town, we work with students to develop proposals that call for new approaches to doing research. By developing new approaches to research, there is an opportunity to ask different kinds of questions, and in turn ask the right kinds of questions to better respond to the challenges of understanding the complex interconnections between human life, multispecies worlds, and the Earth's geological systems.

What are the right questions? How do we know what questions to ask? Who gets to determine the kinds of questions asked?

The importance of situated knowledge cannot be underestimated as a response to the above questions. A focus on lived experience – drawing on what people already know, how they navigate daily life – informs one of what makes for a habitable world while highlighting the sustainability concerns in one's area. Understanding what makes for a habitable world requires linking the Earth's material flows with social relations.

In my research on attempting to understand the growing concerns around the level of pollution due to unsustainable waste and sanitation management practices and failing infrastructure in Cape Town's urban waterways,

I argue that the social, economic, and environmental forces within the complex system have geological effects. By drawing on an analysis of infrastructure and governance, of geographies of space and material flows, and of histories of settlement and displacement and development, the concept of urban metabolism³ becomes key to understanding humans' "situated" relationships to the environment. "Urban metabolism" refers to the material and energy flows in cities that are shaped by social, economic, and environmental forces to create a complex system.

However, Cape Town's urban waterways demonstrate what happens when urban metabolisms are backgrounded, when technical efficiency and economic development is "valued above all else." The separation of the Earth's material flows (through technical interventions for economic growth) from complex socio-eco-enviro-political systems needs to be rethought to enable environmental policy and governance that supports habitability.

- 1 P. J. Crutzen, "The 'Anthropocene'," in *Earth System Science in the Anthropocene*, ed. E. Ehlers and T. Krafft. Berlin: Springer, 2006, pp. 13–18: https://doi.org/10.1007/3-540-26590-2_3;
- 2 D. Chakrabarty, "Anthropocene Time," *History and Theory*, vol. 57, no. 1 (2018): pp. 6–32: <https://doi.org/10.1111/hith.12044>
- 3 J. W. Moore, *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*. Oakland, CA: PM Press, 2016.
- 4 G. Thomson and P. Newman, "Urban Fabrics and Urban Metabolism: From Sustainable to Regenerative Cities," *Resources, Conservation and Recycling*, vol. 132 (2018): pp. 218–29; T. L. Sanches and N. V. S. Bento, "Urban Metabolism: A Tool to Accelerate the Transition to a Circular Economy," in *Sustainable Cities and Communities: Encyclopedia of the UN Sustainable Development Goals*, ed. W. Leal Filho et al. Cham, Switzerland: Springer, 2020, pp. 860–76: https://doi.org/10.1007/978-3-319-95717-3_117

Cities as Mutualistic Organisms

Mark Williams

In the Mojave Desert of North America lives the ocotillo, a resilient plant with a human lifespan. In the spring, and whenever there is enough water, it produces striking red flowers that ignite the tree in a burst of color.¹ The ocotillo provides food for passing hummingbirds, which return the favor by pollinating the plant. Ocotillos do not damage their environment; on the contrary, they are mutualists.

The ocotillo is a small part of life in the desert. A fragment

of a global system that connects all other life, water, air, and the ground beneath us to make the Earth habitable. It is an ancient system, one co-evolving for billions of years, stable and resilient to shock, even when that comes in the form of a giant asteroid strike.

There is another organism growing in the Mojave Desert, one a little over a hundred years old and most unlike the ocotillo. It is called Las Vegas. No one noticed the ocotillo when Las Vegas began to grow along a railway line. Indeed, the US Forest Service notes that "ocotillos have few commercial uses." But the Leviathan of Las Vegas might have learned a thing or two from ocotillos. About how to survive in a desert – the ocotillo possesses leaves that grow and shed as water becomes available. Sometimes these plants can survive drought for several years, to flower again when the rain arrives.



↗ Page 40

Las Vegas' blindness to the ocotillo meant that it followed a different path, one that tried to adapt the landscape to itself, rather than it adapting to the landscape. The city built the giant Hoover Dam and piped in water from the reservoir that grew behind it, replenished by the Colorado, Virgin, and Muddy Rivers. As the city grew, so too did the drawdown of water from the lake, until its level dropped dramatically, and the city noticed. What happens to the city's green spaces, like golf courses and domestic gardens, and even its lavatories, as the water supply is curbed? At every level, from the household to the whole city, water consumption must change. Now Las Vegas must adapt to its environment.

Like the ocotillo, Las Vegas is a small part of a bigger whole, where cities proliferate across our planet, concentrating people and patterns of excessive consumption and pollution. The hinterland of these cities is not just their local habitat, like the Mojave Desert, the beech forests of Southern England, or the ancient rainforests of Java – it is everywhere. Unlike the ocotillo, the patterns of city consumption are far from mutualistic and are instead parasitic.

What does a drought-tolerant plant from the Mojave Desert teach us about the habitable places on Earth? It says that when we grow our cities, they must – as far as possible – forge a sympathetic relationship with the natural

ecologies around them.² Utilizing local resources to build, recycling materials to rebuild, sympathetic to the ebb and flow of water in the natural seasonal cycle, supportive of life – human and nonhuman – and making space within its structures to do this. And predicated on energy that is renewable. This is, of course, a vision of a city far removed from any that exists today. But it is a vision of a city that might truly coexist alongside nature in a mutually beneficial way.

- 1 P. E. Scott, "Long-Term Survival and Flowering of Ocotillo (*Fouquieria splendens*) in Texas: A 33-Year Perspective," *Journal of Arid Environments*, vol. 193 (2021): 104552.
- 2 M. Williams, J. A. Thomas, G. Brown, M. Pathak, M. Burns, W. Steffen, J. Clarkson, J. Zalasiewicz, "Mutualistic Cities of the Near Future," in *Altered Earth: Getting the Anthropocene Right*, ed J. A. Thomas. Cambridge: Cambridge University Press, 2022.

What is the Premium of Habitability?

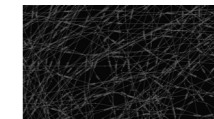
Gary Zhexi Zhang

The question of measuring planetary habitability speaks to the problems of equivalence, exchange, alignment, synchronization, coordination, and transposition across spatial and temporal scales of inhabitation. What framework can be imagined for value and time to be mediated across not only human communities but also the nonhuman habitats on which they rely? More than mere quantitative arithmetic (e.g., carbon calculations), measurement also invokes the negotiation of metrical conflict: between myriad stakeholders and paradigms for sensing, measuring, and acting upon the limits of habitability. Measurement takes place in all directions, all at once: the process looks less like a universal dashboard than a bazaar, in which contradictory techniques and units of measure might coexist in dynamic exchange. Yet perhaps a bleak hope looms over this vast coordination problem, in the certainty that the planet will become mostly uninhabitable if its survivors do not recognize their interdependence.

The catastrophic time of the Anthropocene is fundamentally entwined with the time of modern economics, itself an exemplary failure of "measurement" through the catastrophic mismanagement of the future – Mark Carney observed it as "the tragedy of the horizons." A 2022 report by the Central Banks and Supervisors Network for Greening the Financial System entitled *Central Banking*

and Supervision in the Biosphere recommended meagerly that central banks should begin to recognize biodiversity loss as a risk to financial systems and price stability, and should therefore measure the degree of their "exposure." Nonetheless, few institutional actors have the agency of state central banks to render inhabitability as a systemic risk, to govern the expectations of capital and coordinate regimes of valuation at the planetary scale. New institutions are urgently needed, but what can be done to retool existing accounting frameworks toward a holistic measuring of habitability?

Is habitability insurable? In my work I've explored the world of catastrophe insurance, which develops simulation models combining meteorological and land-use data to create "value at risk" metrics for the insurance industry. In short, to put a price on habitability. On the one hand, catastrophe insurance demonstrates efficacy in creating consensual "truths" that interface between the planetary scales of climate science and global capital down to individual stakeholders – that is, homeowners. From seventeenth-century "friendly societies" to contemporary cooperative credit structures, collective risk-bearing and management remain fundamental to habitability at scale. On the other hand, the problems of catastrophe insurance – some analysts have declared that the "insurable world" is shrinking – reveal the contradictions of extracting rent from collective security: only profitable risks are legible to the blinkers of the market; other catastrophes are mere noise, beyond measure.



↗ Page 38

Measurement and its tentative counterpart, correctional feedback, suggest the problems of calculation, coordination, and information – the failed ambition of the market. Some recent debates have revolved around creating new forms of legal or financial legibility in order to habitate the Anthropocene into legacy metrics. But it is also these regimes – incapable of connecting the fate of individual inhabitants with the whole condition of habitability – that need to change.

What Planetary Damage Can Be Repaired?

The mitigation of the effects of the Anthropocene will require intensive care work. This work provides the opportunity to help “being human as praxis” gain new meaning by inventing new, more equitable relationship patterns and overcoming colonial dynamics. But who will carry out this planetary care work? And which conditions are worth preserving, and which not?

The Possibility of Hope

Mohammad Al Attar

The horrors of the last decade in my country, Syria, have pushed me to the brink of despair. In recent years, I have found myself repeatedly on the verge of a chasm of nihilism and cynicism, an agony intensified by the bleak future that seemingly awaits Syria.

Since the beginning of the COVID-19 pandemic, I have also paid more attention to global warming: its catastrophic effects on life on our planet and the responsibility borne by humans in a globalized world governed by a brutal capitalist system. I must admit that the Syrian tragedy had distracted me from devoting the time and attention this concern deserves – even despite the direct relationship between human-caused climate change and the deteriorating economic and social conditions in Syria that propelled the massive popular uprising against the totalitarian regime in 2011.

Over the last two years, climate change and its devastating global effects have taken center stage in my personal obsessions, sharing space with the debilitating vexation that takes hold of me whenever I think of Syria. Along the way, I have become preoccupied with the concept of hope. Not simply with the philosophical connotations of the term, but rather with a basic question: How do we find hope in the darkest of times when we are surrounded by roadblocks? And, in the search, how do we avoid the illusions that risk more bitter disappointment? How do we restore what seems irreparable?

In my attempt to confront these questions and work on the theme of the possibility of hope, I found myself going back in time to my first experiences in theater. Over fifteen years ago, I collaborated with fellow students and recent graduates of the Higher Institute of Dramatic Arts in Damascus to establish a theater group. Our mission was to adapt techniques from the Theatre of the Oppressed, developed by Brazilian director Augusto Boal, and bring them to remote, impoverished Syrian villages. There, we staged theatrical scenes that simulated the dilemmas of marginalized, oppressed communities, whose own participation in the scenes was crucial to the plot's direction and to the ways protagonists could confront their oppressors. The process implied that it could neither provide the audience with definitive answers nor resolve the dilemmas of the protagonists. Finding solutions demanded a participatory effort that, one way or another, led us to a way out of the protagonists' predicament and carried real hope.

Today, I am aware that I do not have the answers to the questions that keep me anxious and afraid. I am also aware that some things in this world will never be the same now that we have allowed our savagery to obliterate ecosystems. Yet I have no choice but to work on hope. It is a job that keeps me together. I have also internalized that this cannot be a solitary pursuit. Like in those theatrical scenes set in remote Syrian villages, it will take the participation of many. After all, it is the many who already see they are standing together on the verge of despair.

The Work of Repair

Lisa Baraitser

What damage can be repaired? I approach this as an open question or a “possible,” in Isabelle Stengers' terms. For Stengers,¹ in the face of various global catastrophes, the task is to take care of the possible, where the effects of experiments – we can think of social, political, clinical, and artistic experiments as much as scientific ones – cannot be known in advance. If we instrumentalize repair rather than take care of its possibles, we fail to see that repair and violence are always bound up together, and damage and repair then simply repeat in an endless cycle. This is an insight I draw from Kleinian psychoanalysis (I am in clinical as well as academic practice), which describes the ways we find ourselves damaging the very things we depend on and have to come to care about if we are to survive the vicissitudes of psychic life.

One movement I would make toward care of the possible is to approach repair as a temporal rather than a material experiment. To repair (from the Latin *reparare*) is to make good again that which was made ready (*parare*) but not necessarily to restore it to the state it was before. As something is made ready again, it is oriented differently toward a new possible. In this sense, repair is a particular form of care of the possible that is “retroactive” or “*après-coup*”; doing something again doesn't just reconstitute but constitutes for the first time a relation between making ready and an anticipated future that remains unknowable in advance. To repair entails risk and uncertainty in the face of unprecedented destruction, yet the “again” in repair points us toward the temporalities of repetition and return: the historically unglamorous, arduous, and often unseen labor of maintenance that is raced, classed, and gendered, and that concerns enduring and sustaining the stuck time of going over and over the same thing. In my work, I have linked this to what I call the

“maternal death drive,” reworking Sigmund Freud’s notion of the haunting of the subject and the social world by destructiveness to open up the possibilities of repetition on the side of “life” that is linked to Hannah Arendt’s notion of natality or beginning again as the ground of politics. To approach repair through a politics of repetition I think “makes the difference” that breaks open the monolithic qualities of what Charles Mills calls “white time”² and allows us to open a time that is supplementary to the interminable oscillation between repair and violence.



➤ Page 41

This brings me to a second movement toward care of the possible, which has to do with collectivizing these temporal practices. I see repair as a practice of thought that is radically open to all. To know and to go on knowing about the damage we do is a certain kind of epistemological “work” that entails going on knowing about situated histories and memories of violence as well as repair itself as disruptive of thought in its productive and retentive modes. I find Christophe Dejours’ distinction between production and work useful here.³ Capitalism invisibilizes “working” in relation to production. Working, however, is only possible for a body capable of suffering and is always a form of cooperation with others. To work (which is to suffer) is to live together. The work of repair, then, is a nonproductive mode of thought open to all, given that all bodies are open to wounding and therefore to suffering. As I see it, repair becomes a psychosocial economy through which we reconfigure work, labor, production, and suffering in care-ful, temporal, and nonproductive terms.

- 1 Isabelle Stengers, *In Catastrophic Times: Resisting the Coming Barbarism*, trans. A. Goffey. Luneburg, Germany: Open Humanities Press, 2015; Isabelle Stengers, *Another Science Is Possible: A Manifesto for Slow Science*, trans. S. Muecke. Cambridge: Polity, 2017.
- 2 Charles W. Mills, “White Time: The Chronic Injustice of Ideal Theory,” *Du Bois Review*, vol. 11, no. 1 (2014): pp. 27–42; Charles W. Mills, “The Chronopolitics of Racial Time,” *Time & Society*, vol. 29, no. 2 (2020): 297–317.
- 3 Christophe Dejours, “From Psychopathology to the Psychodynamics of Work,” in *New Philosophies of Labour: Work and the Social Bond*, ed. N. D. Smith and J.-P. Deranty. Leiden, Netherlands: Koninklijke Brill NV, 2012.

Options

Orit Halpern

An option is a choice. In markets, options offer the ability to bet on the future of an asset, far before that future is known.

In the seventeenth and eighteenth centuries, in the search of empire and wealth, European shipping expanded globally and exponentially. Overseas trading expeditions – whether they concerned slaves, cash crops, commodities, or manufactured goods – were risky endeavors. The high costs of such ventures meant that investors began merging investments in less risky and shorter voyages with longer and riskier voyages – “hedging” their bets. This risk management enabled a new kind of calculation of territory that quantified space and did so by transforming geography and the weather into time and climate via the concept of probability.¹ The seas became abstract, rationalizable zones, and human lives – the unfortunate subject of such bets – were made actuarially representable and quantifiable.²

In the mid-nineteenth century, American efforts to settle the West depended on the rationalization of the plains.³ To do so, the land was cut into standard areas for sale to investors and newly arrived immigrants; a seemingly equal and quantifiable exchange.⁴

Extending this logic commensurability, the Chicago Mercantile Exchange decided in the mid-nineteenth century to create grades of wheat! Winter, red, and spring. Having standardized wheat from many locations and farms, now the commodity exchange could go another step: investors could buy possible future prices for a harvest of a particular grade or recombine grades. And farmers could sell a particular grade of wheat ahead of time,⁵ thus avoiding the differential impacts of weather events.

“Nothing Washington can do will change the weather,” said American economist Milton Friedman in 1977.⁶ But what Washington cannot do, he implied, the market could. Skyrocketing energy prices, global instability as a result of postcolonial conflicts, and surpluses of petrodollars posed great risks for globalizing corporations. In response, a series of computer scientists and economists developed new computational derivative pricing equations and options in currency. Corporations could thus hedge the risks of inflation and geopolitics.

Today, derivatives and options make up the largest markets on Earth, and one of the most heavily leveraged and optioned of these is energy.

But an option is also a choice. Recognizing that the histories of race, capital, and science haunt our present, we must also ask whether our ability to technically redistribute risk might not be used otherwise.

- 1 As Lorraine Daston has noted, eighteenth-century insurers shifted from earlier practices of basing risk calculations on individual guesswork, sentiment, and personal relationships, to using tables, which enabled the automation and standardization of calculation. These latter capacities also permitted the expansion of empire and its project of administering populations into the future. Lorraine Daston, *Classical Probability in the Enlightenment*. Princeton, NJ: Princeton University Press, 1995.
- 2 Arthur H. John, “The London Assurance Company and the Marine Insurance Market of the 18th Century,” *Economica*, vol. 25, no. 98 (1958); Luke Mann, “From the Black Atlantic to Black-Scholes: Precursors of Spatial Capitalization,” *Cultural Politics*, vol. 16, no. 1 (2020).
- 3 Roger G. Barry, “Short Communication: A Brief History of the Terms Climate and Climatology,” *International Journal of Climatology*, no. 33 (2013); William Cronon, *Nature’s Metropolis: Chicago and the Great West*. New York: W. W. Norton, 1991.
- 4 Cronon, *Nature’s Metropolis*, pp. 97–142.
- 5 Cronon, *Nature’s Metropolis*, p. 116. I owe the entire segment concerning the summary of the market in futures in Chicago to Cronon’s excellent account.
- 6 Milton Friedman, “Gas Crisis: Weather or Washington,” *Newsweek*, February 28, 1977: <https://miltonfriedman.hoover.org/internal/media/dispatcher/214178/full>.

Eco-Angst Figures

Valentina Karga

Eco-anxiety is understood as a chronic fear of environmental collapse. With climate change becoming more felt each year, it affects more and more people in their daily lives. Just like any other source of anxiety, eco-anxiety can cause sleep disturbances, nervousness, sensations of suffocation, and even depression. Since the stressor is so vast and so uncontrollable, there is little one can do on a personal level. Because of this, some of the traditional strategies of psychotherapy not only do not apply but in fact can cause even more distress. On the other hand, it is found that addressing the body-mind connection, through techniques of somatic psychotherapy, can work. This is because chronic anxiety deregulates the nervous system: leading it to easily turn on the *flight, fight, or freeze mode* and making switching back to *rest and digest*, where a body must spend most of its time,

more difficult. Not only am I researching this subject but I have also experienced it. Looking back to my personal history, I have learned to reflect differently on the subject of environmental collapse through talk therapy. However, I was not “healed” until I started practicing different somatic techniques with an approach to regulate the nervous system. One of the things that helped me the most when I could not practice – for example, when I was sleeping or when I was in freeze mode – was a heavy blanket. Heavy blankets and heavy plush toys can help in both emotional and physical regulation, by calming the nervous system when dealing with sensory processing issues.



➤ Page 43

My research focuses on the design of heavy plush toys and blankets and hug pillows. I am combining it with forms that could initiate a process of reflection regarding climate change, toward a not so black-and-white judgment of the future and of the characteristics of human nature that led the climate to its current state. Typical stuffed animals were a trigger for me because they made me think of extinction. Long story short, I focused on prehistoric figurines dated to neolithic times, a particular era of transitioning from a nomadic way of living to agriculture and settlement: a possible seed for what we nowadays call the Anthropocene.

The figurines, which we believe to be representations of humans, are mysterious creatures. The goddess movement, inspired by the contested archaeologist Marija Gimbutas in the 1970s, interpreted them as “Earth goddesses,” symbols of a lost but not impossible matrilineal era, perhaps in order to begin to form imaginations of counterbalancing the historically overpowering role of patriarchy and to strengthen the second wave of feminism. In a similar way, today, with our attention shifting to the overwhelming threat of climate change, we could interpret them as symbols of the “more-than-human world.”¹ Whereas goddess movement fans focused on the breasts and vulvae of the idols, I suggest that we could focus on their animal-like and plant-like characteristics.

This is a speculative project researching the capacity of art and design to influence worldviews through storytelling,

presented in collaboration with Museum für Kunst und Gewerbe Hamburg and Hochschule für bildende Künste Hamburg.

- 1 David Abram, "A More-than-Human world," in *An Invitation to Environmental Philosophy*, ed. Anthony Weston. New York: Oxford University Press, 1999, pp. 17–42.

Restorative Listening

Margarida Mendes

Using sonic methodologies as a tool to open conversations about environmental harms and restorative justice, my recent practice has focused around the work of river guardians along the Tejo river in Portugal. I have been developing sonic meditations and scores, using walking as a methodology for riverine research and restorative justice circles as ways of engaging with riverine communities. While doing this, I explore how ideas of intergenerational justice and reciprocity can be further mobilized through acts of listening and communal dialogue.

By using these methodologies, I am interested in understanding how slow violence imprints the body with emotional marks that may be mobilized through forms of attunement and listening, as well as forms of aural support and guidance that catalyze grief into productive workings. I do this through collective research processes where we open spaces for conversation between activists, legislators, and riverine community members, claiming a space for what I call restorative listening: practicing and inquiring how listening can be an act of repair.



➤ Page 40

My research with river guardians is set around situated testimonies that report fast transformations of ecosystems and claim action upon environmental crimes. While reflecting on the conditions of audible experience – not only what is heard, but also who is heard – I also reflect upon what isn't heard and the space of unsound in the ecological equation. This is the sonic dimension that lies outside the audible spectrum: the species unknown, unregistered, or extinct, the different metabolic

temporalities of life and toxicity that are diffused, molecular, and expressed by other forms of experience and scalability.

This study of community relations via infrastructural, ecological, and sonic dimensions is infused by Pauline Oliveros' concept of the sonosphere, which weaves the biospheric layer with the technospheric, referring to the energetic place that sound occupies as it travels through multiple body parts and environmental dimensions alike. My interest is to mobilize this cross-scalar reflection on the sonosphere toward thinking about infrastructural impacts upon ecosystems and the workings of solastalgia and environmental grief, while narrating the experience of local inhabitants and their connection with riverine ecosystems.

Through registering testimonies and developing experimental methodologies for environmental sensing, I aim to allow for more just spaces for hearing where the power of the word, sensation, and experience are taken into account toward a deeper understanding of what the body politic is.

Care as a Reparative Practice

Nishant Shah

In her seminal work on critique and reconstruction, *Novel Gazing: Queer Readings in Fiction* (1997), Eve Kosofsky Sedgwick offers a practice of "reparative reading." Sedgwick's proposition is made in the context of queer theory, where she suggests that in order to repair the damage of homophobia and other forms of prejudice and violence, we need to do more than just reveal *even more* insidious forms of abuse in unlikely spaces – a practice she recognizes as a "paranoid reading" practice. Instead, "reparative reading" offers an orientation toward possibility and a hopeful regenerative collectivity to make way for queer pleasure and the capacity for maintenance and repair of bodies, identities, and communities.

In the long tail of the post-truth era that we are theorizing and theorizing within, structures of violence, oppression, and extinction have become not only more pervasive but also more similar in their planetary scale. Especially with the accelerated connectivity of digital networks and the capitalization of information wars, it is not a surprise that the located, often shameful, and tightly contained bubbles of violence have exploded to form a global network of erasure and erosion that continues to diminish

and destroy the very imaginary of a planetary future. Any attempt at reading a planetary future gets bookended by the hypermasculinist visions of technological singularity that proposes a complete abdication of bioethics on the one end, and a neocolonial escapism of interplanetary occupation that abandons the responsibility of caring for an ailing planetary Anthropocene on the other. The planetary is right now paranoid. Fueled by misinformation, fanned by polarization, and frantically being depleted of collective care practices that harness hope, the planetary default seems to be a rehearsal of gloom, doom, and despair; a paranoid reading that allows no respite and forecloses the possibilities of repair and regeneration.

Within this morass of planetary extinction, I revisit Sedgwick after Sedgwick, to imagine what a reparative reading of a planetary future can look like. Drawing from the work I have been doing on "narrative change practice," I propose a series of touchstones that might help us to question, deviate, reformulate, and create new narratives that center collectivity, hope, and engagement toward building planetary futures. In this exercise, we do not look so much at repair as we do at care and care narratives. Care narratives are particularly useful because instead of a nostalgia for systems that are damaged and structures that are gone, they recognize that a rebuilding of the system might undo certain damage but will not accommodate those who were already oppressed by that system. Repair, which is often seen as an undoing of damage, will be replaced by maintenance, which is about investing resources toward those who are the most affected by the damage. This will create narratives of a different kind of rebuilding that allows for an inheritance of loss without romanticizing it.

Who Gets to Decide What Actions Are Taken?

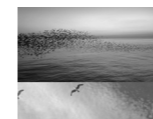
Planetary thinking takes the various needs and positions of planetary protagonists into account and keeps the cross-generational and intensive feedback character of decisions in the Anthropocene in focus. The aim is to develop a praxis that reflects on the interconnection between decision-making and political, cosmological, and biochemical processes and transforms it into a productive collaboration.

Decisions as Patterns of a Cosmic Rhythm

Felipe Castelblanco

There are certain binding factors shared among all earthly beings, across scales of life and latitudes, that make us all dependent, restrained, or forever synchronized. Is one of them perhaps the capacity for decision-making? Surely not. This skill has only been attributed to intelligent beings, classified as such by other self-described intelligent beings. Those categorized as nonintelligent comprise most earthly beings with whom humans share the planet but still don't know enough about. Moreover, we still ignore the capacity of other earthly beings to know about themselves, and how they might use this knowledge to determine their own stake in the world.¹

In various moments of history, human assemblies have tried to order the planet according to their own form of knowing, to make decisions for and to govern other beings, only leaving behind the painful traces of ecocide, ethnocide, and epistemicide. Despite it all, countless modes of resistance keep emerging all over the planet, as well as multiscale villains (viruses, pests, typhoons, and so on). Somehow, they always manage to surprise us, revealing the inadequacy of dominant knowledges and their assumed certainties. Could it be that what we all share as earthly beings is the sheer inability to single-handedly know how to deploy totalizing measures or to make decisions on containing a world that already contains us?



↗ Page 41

Within my current research and creative practice linked to the project "Plants_Intelligence: Learning Like a Plant,"² I explore the role of intelligibility, or modes of communication sustained among interspecies communities, as a path for territorial defense and management in the Colombian Andean-Amazon region. This alludes to a multitude of practices where humans and nonhumans conspire together to preserve life across scales. After all, earthly space binds us all to the planet's rhythms. We travel with Earth, inside it, across orbital paths, and around the sun.

Therefore, being earthly means to have a sky above and to be constantly pulled toward the Earth's core. It also means to unfold life in a metabolic cycle of dawn and dusk. All beings, including those deprived of light below the ground or hidden away in our human guts, succumb to these rhythms and swim constantly in the currents of time, which themselves resemble repetitive circular orbital paths that envelop life. In such a world, decisions are mere patterns of a cosmic rhythm, and those who harmonize succeed. Plenty of "less intelligent" beings than humans have already figured this out without resorting to decision-making. Flocking birds, for instance, move based on repeating patterns that oscillate between three stages, which all members of the flock embrace: separation, alignment, and cohesion. Together they traverse space while no single bird can ever take the lead. The flock moves, and in moving, it knows again how to move. That is why the cyclic rhythm of the planet is what decides, by moving us along; and in doing so, it shows all beings nested within how to follow its own flow.

- 1 B. McClintock, "The Significance of Responses of the Genome to Challenge," *Science*, vol. 226 (1984): pp. 792–801.
- 2 "Plants_Intelligence. Learning Like a Plant," Fachhochschule Nordwestschweiz: https://www.fhnw.ch/de/forschung-und-dienstleistungen/gestaltung-kunst/forschung/forschungsprojektes-des-instituts-kunst-gender-natur-iagn/plants_intelligence-learning-like-a-plant

The Epistemic Figure of Even Distribution

Maria Chehonadskih

One cannot posit the question of planetary thinking without addressing the problem of the new political imagination, which, in turn, depends on our critical orientation and capacity to question the dominant epistemic foundations, which shape how we see, analyze, and act in the world.

In my intervention, I am going to start with a set of simple observations on how the classical epistemic model of individual responsibility still determines our ethical and political responses to the multiple crises of ecology, economy, and geopolitical confrontation. The old concept of the sovereign individual, who should act responsibly, has recently been recovered in order to tackle the energy crisis ("consume responsibly") and the war crisis (in the UK, refugees have become guests in the houses of

homeowners, on precarious visas, at the mercy of their individual hosts). It is obvious that individual responsibility at best provides some relief, but it cannot replace the urgent need for new infrastructures transnational in scale and collective in scope. The machine of war and climate injustice feeds mega-imperialist projects and enacts new nationalist divisions, yet we should also remember that difficult times require courage to at least articulate how inadequate the persistent ideology of individual responsibility is. In a world of precarious jobs and underemployment and insecure and cold homes, we cannot rely only on our ability to save a few hours for volunteering or activism. We need to be more ambitious and speculative. That is why I have always thought that the generations of revolutionaries who came before us and who tried to work in a much more radical direction can provide some support in our thinking of what is to be done.



Page 40

In the second part of my intervention, I want to elaborate on what I define as an epistemic figure of “even distribution.” Even distribution establishes a horizontal type of self-regulating cooperation or a system where parts modify one another by evening out each other’s capacities. This model brings together a cybernetic concept of moving equilibrium, the law of the minimum established by biologist Justus von Liebig, Boris Kozo-Polyansky’s hypothesis of symbiogenesis, Andrei Platonov’s experience of peasant cooperatives during the civil war and famine, and Alexander Bogdanov’s theory of biophysical cooperation. Seen from the perspective of these various biological models, social experiences, and political experiments, even distribution also appears as a new concept of infrastructure and a mode of collective life. I attach the illustration of Justus von Liebig’s law of the minimum for further orientation.¹

¹ See an image and explanation of Liebig’s concept at: “Liebig’s Law of Minimum,” Arcosa, <https://arcosaprecialtymaterials.com/liebig-law-of-minimum/>

Post-Archimedean Decisions

Kai van Eikels

Asking *where* the planetary is opens up a chance to enter the process of making decisions on ecological politics from oblique vantage points. The implicit message in this question, for me, is that even for someone like me – a philosopher and performance studies scholar – there may be a spot to discover that provides our bodies with an experience of the planetary. Even for someone like you, whoever you are.

Presently, it seems that *what* the planetary is has already been decided: by scientists who combine their findings in networks of complex collaboration, and by national governments that agree, or mainly fail to agree, on the measures recommended by said experts. The way scientific competence and governmental incompetence are locked into each other has a doubly exclusive effect. It denies the vast majority of people an active role in the project of saving the Earth, both for lack of expert knowledge and for lack of a power that would be able to overrule the insufficient decisions made by political leaders.

In 1957, the Sputnik satellite shot into the Earth’s orbit by the Soviets created a point of view that allowed for seeing the Earth as a globe, a finite object among many others. Apparently, space technology confirmed the strength of a self-distancing mindset: in order to fully grasp something that includes you, you need to project yourself into a position outside it, rising to a metalevel. The planetary thus became connected to the Archimedean lever, the hypothetical instrument that can manipulate the planet as a whole.

Today, we find ourselves lost in the hope that some association, some major coordinated global effort, will eventually assemble enough knowledge and power to cure the planet as a whole, after centuries of ill-organized human activities have almost ruined it. Ecological thinking tries to change our minds by stressing embeddedness and relationality. But our politics in respect to the planetary are still predominantly Archimedean. They depend on the possibility of creating a sovereign superpower – if not an alliance of nation-states, then “the power of the people.” However unlikely that is.

“Where is the planetary?” intervenes with a surprising question at a moment when the strained, so far mostly futile attempts to organize ourselves into that superpower have left many of us with frustration and fatigue.

Can we – some of us, a few, maybe a few more in case of interesting results – detect the planetary *from below*? Can we scan our vicinities for decisions with planetary consequences that were made in the past, and try to introduce our own decisions into these sites in their current state? Can we reposition, and perhaps recalibrate, the planetary between us if we use our bodies to measure its condition and to generate measures? Might we even learn how to let our exhaustion help us make planet-beneficial decisions we would never arrive at while we feel enthusiastic and strong?

Acting Planetarily with Care, Mutual Understanding, and Solidarity

John Kim

The question “Where is the planetary?” invites comparison to local- and continental-scale activities that I’ve been involved in as a possible model for planetary thinking of care, mutual understanding, and solidarity. A starting point here is a recognition that in the US, the question of “who gets to decide what actions are taken” hinges on a fundamental crisis of governance. There is an abyss between the needs of people who confront the daily consequences of environmental and social disasters that threaten basic life and the governance that should provide leadership on actions.

In previous contributions for *Anthropocene Campuses* and the *Anthropocene Curriculum*,¹ I’ve commented on the re-emergence of mutual aid and solidarity in US social movements. I’ve gravitated to this topic, in part, because I live in Minneapolis, which has been an epicenter for a US reckoning with twinned environmental and social disasters, specifically the George Floyd Uprising and the Stop Line 3 movement. I’ve worked with collectives that have employed mutual aid and solidarity in response to these problems. These collectives mobilize because of an abyss in governance to provide meaningful action. Mutual aid and solidarity emerge as a form of self-governance that model an alternative to broken institutional forms. Put differently, meaningful action requires stripping decision-making from calcified governing institutions captured by corporate and elite interests and empowering communities to make collective decisions about urgent environmental and social issues.

Building from this foundation, I’d like to shift the question in a second way. Also important to collective decision-making is a deliberative process of identifying and defining shared ideas or principles that can scaffold collective action. “Who gets to decide” then should be actors who share a mutual understanding and solidarity for these principles. To make this discussion more concrete, an identification of shared principles has been part of our ongoing work on the *Mississippi River Open School* (tentative name). This project builds on a network of activists, educators, researchers, and artists who were brought together for *Mississippi. An Anthropocene River* (2018–21). We’ve identified four shared principles through collective decision-making: Welcoming, Crossing, Repairing, and the Open School. I hope to discuss these with others during *Where is the Planetary?*, as they potentially offer ideas for coordination of educational and research activities at local, continental, and global scales.

To recap, “who gets to decide” suggests a process of including actors on a planetary level, agreeing on a decision-making process, and defining shared principles upon which a sense of mutual understanding and solidarity can grow. These are activities that we have explored at local and continental levels in the US in response to twinned environmental and social disasters. They may be scalable to the planetary level, but different challenges will likely appear that will require flexibility in their implementation.

¹ See <https://www.anthropocene-curriculum.org/contributors/john-kim>

Earth Science and the Wicked Problems of the Anthropocene World

Francine McCarthy

For decisive actions to be taken, there must be collective agreement on the need for action and on the best path(s) forward. A persuasive case must be made, one that is immediately relevant to most people yet contains enough pragmatic details to allow effective implementation. It should not require specialist knowledge, but it *must* be informed by it. As an Earth scientist and a member of the Anthropocene Working Group of the International Commission on Stratigraphy, my immediate response to the question of “Where is the planetary?” is that those of us who are familiar with Earth systems and their complex interrelationships should have a strong voice at the table. This does not mean dictating what should be done but rather helping others who will be involved in promoting an awareness of our collective responsibility for the future habitability of planet Earth. To have an effective voice, Earth scientists must become more skilled at communicating with those in other disciplines, including the social sciences, humanities, and visual and performing arts, without antagonizing them or overwhelming them with jargon and complicated science.

Over the past four years, while assessing the potential of annually laminated (varved) sediments in a small lake in Canada as a “golden spike” to define the Anthropocene as a formal interval of geologic time, I have interacted with a much broader group of collaborators than in my previous three decades as a professor of Earth sciences. I have also discussed our work, as well as the broader aims of the Anthropocene Working Group, with many journalists and science writers to reach the broader public. These interactions have enriched the final product – a submitted article to a special issue of *The Anthropocene Review* – making the case for the sediments in the deep basin of Crawford Lake that preserve markers of the “Great Acceleration” that altered Earth systems beyond the bounds of the Holocene epoch as the type section to define the Anthropocene.¹ These interactions have also taught me a lot about how much our disciplinary backgrounds influence the conclusions reached by equally intelligent people based on the same information, despite an openness to transdisciplinary approaches needed to address “wicked problems.” I frequently have been frustrated by my failure to convince some colleagues of what – to me! – is undeniable: an interval

of geologic time must be defined concretely to mean the same thing to everyone. I have also occasionally been distraught when time spent communicating as clearly and openly as possible with journalists and science writers resulted in an article that (I feel) misrepresents the facts or our intentions in our attempt to have the Crawford Lake varves (specifically, a sediment core from the lake that is archived at the National Biodiversity Cryobank of Canada) designated as the Anthropocene Global Boundary Stratotype Section and Point (GSSP). The necessary (but not easy) response is to work on improving communication, and that entails listening to others as well as better articulating my perspective.

1 For more on the working group's publications, see “Working Group on the ‘Anthropocene,’” Subcommission on Quaternary Stratigraphy: <http://quaternary.stratigraphy.org/working-groups/anthropocene/>

Planetary Omissions

Adania Shibli

A more shy companion to the question “Who gets to decide what actions are taken?” is the question “What are the conditions and criteria, including linguistic ones, that allow one to expect, even demand, decision-making as such?”

Comprehensible human verbal articulation may rise as a plausible starting point in decision-making processes. The attempt here is to consider as many elements as possible that are usually excluded from these processes. This includes those that lie beyond linguistic expression, or have been stunned into silence, or have never considered the verbal. In other words, the attempt here will be to call into the process what thus far has been neglected or excluded by a humancentric approach, which, intentionally and unintentionally, weighs certain factors and experiences, yet not others, to reach a decision intercepted by omissions. This intervention hopes to be treated as an invitation to together excavate planetary omissions that we are confronted with but are hesitant to acknowledge.



↗ Page 43

How Do We Tell Planetary Stories?

How can we tell stories about life on the planet that provide information on both where human civilizations come from and how they could develop? What should this narration contain? How could it place civilizations in a position to guide future planetary developments?

Creating New Scripts of Interconnectedness

Ravi Agarwal

We have come to imagine ourselves in fragmented realities, denying our fundamental connections with the planet we live on. A lack of acknowledgment of our deep-time histories, the fragile navigations through which we have come to be as a species, or our multispecies codependencies, have led us to act recklessly. Alienated from our own planet and its cosmologies, our actions have been marked by narrow interests blinded by extractive capitalism and the power of technology to influence and destroy at a planetary scale. The material traces of product economies are everywhere, interlinked through supply chains causing displacements and extinctions in vast landscapes. To change the imagination through which we act, and to create a just and equal world that has the resilience to steer us in volatile times, will require living in a deeper consciousness of our “realities” and interconnectedness. This is as much an endeavor of knowledge as it is of values.

Listening: Stories and narratives of mutuality have long existed, albeit in heterogeneous contexts of cultures, times, and places. They have been suppressed through the long violence of colonization and globalization. We can start by seeking them out, by conversing with those who already live in such interconnected ways. Not only do they possess learned and experiential knowledge about worlds they inhabit, but also they do so with values of respect, coexistence, and community. Often these ways could be ontologically and epistemologically different from those of the modern world and not easy to relate to. My work with traditional fishers in South India, off the Bay of Bengal, has shown to me their immediate and respectful relationship and knowledge of the sea, dating back to 300 BCE, as reflected in their Sangam poetry.¹ Urgently listening to their ways and acknowledging their relevance to us, before these have been totally erased, is a place to start.

Imbibing: At the same time, the stories that science tells us should adopt an interdisciplinary and participatory approach, enabling them to be inclusive of other ways of knowing. Yet, we also need to be aware of what scientific inquiry has already been telling us for some time now of our connected realities, the manner in which planetary phenomena are part of complex systems, and of our continuing co-evolution and interdependencies with other species. For example, our research for Toxics Link (toxicslink.org) reveals how toxicity can be locally

generated but becomes globally distributed to faraway places and populations through ocean and air currents.

An awareness based on various knowledge and value systems must form part of our everyday understanding of the world and reaffirm our need to act responsibly not only to local but also to the larger community. Creating new narratives based on such understandings could enable a repositioning of ourselves, politically and socially, and will help relocate us in our local, planetary, and cosmic worlds to act differently. Our similarities rather than our differences should guide us as we come to realize the precarity of our existence. A deep immersion into our realities can guide our options and decisions for our futures, through stories that are consonant with an unalienated existence.

- 1 Tamil Sangam Akham poetry (300 BCE to 400 CE) is set in five natural landscapes where human life and love coexist with nature, without it being instrumentalized.

Until the Planet Learns to Write

Myung-Ae Choi

“Until the lion learns to write,
every story will glorify the hunter.”

– African proverb

To answer the question “How do we tell planetary stories?,” I tried to put together an image of the “planetary” as it is understood to me. Two images came up. First, a multiple of nodes and lines that connect local areas – like telecommunication cables or flight routes at the back of in-flight magazines. But in this case, the nodes are not global cities but rather small local towns and villages where various social, economic, and ecological experiments are taking place, or places hit by human-made and natural disasters, climate or otherwise. In this imaginary map, the national boundaries are erased. What connects these local places are perhaps the shared experiences of despair, fear, and also hope for recuperation. This network of locales across the flat scale perhaps could make up the “planet” we will know.

If the first image comes with dots and lines, then the second image tries to capture the energy, whether stable

or abrupt, that holds the planet together. Like humans, animals, plants, and other beings as well as natural phenomena, such as extreme weather events and volcanic activities, also have agency, suggesting, in a moment of postmodern enlightenment, that the planet is an agent.

How could we capture the network of locales, and the materiality of the planet, in a writing practice? Conventional modes of writing – reports, newspaper articles, papers – might not be able to deal with planetary scales and energy. We may need what philosopher Donna Haraway calls “speculative fabulation.” The story of a redressed past and impossible futures.

At the turn of the century, human geographers and science and technology studies scholars “followed the thing.” The cultural geographer Ian Cook followed the papaya,¹ from the field, onto the plane, and into the supermarkets of London, eloquently revealing the geographies of globalization. Perhaps we could do something similar. But this time let’s turn to the mundane, nonliving, and underexplored components of the planet: coal, for example. Furthermore, why don’t we let coal speak? Coal could speak about its journey that connects multiple local places, the treatment it received, and its hopeful futures. What does history look like from coal’s perspective? What does the Anthropocene mean to coal and fellow earthly minerals? Could we imagine hope – the multispecies one? We have heard too much about how we humans think about coal. Now let it speak.

¹ Ian Cook et al., “Follow the Thing: Papaya,” *Antipode*, vol. 36, no. 4 (2004): pp. 642–64.

Taking the Time It Takes to Tell Tentative Tales

continent.

“When the speakers were called forward to the circle of folding chairs, they moved slowly – with canes, walkers, and wheelchairs, only a few entirely under their own power.”

“When I was young, I thought the change might happen that fast. Now I am old and I know that transformation is slow. [...] A great longing is upon us, to live again in a world made of gifts. I can scent it coming, like the fragrance of ripening strawberries rising on the breeze.”

– Robin Wall Kimmerer, *Braiding Sweetgrass*

There are many stories of scarcity and strife that impel us, unhesitatingly, toward rapacious growth and progress. There are narratives of, and in, the Anthropocene that presume dominion of this planet, its plenitudes and processes. Such scripts are composed too hastily. We imagine sentences briskly scrawled on the backs of envelopes in chauffeured sedans shuttling hurriedly between office and oilfield. We know of retorts and replies, composed under the often suffocating stresses of media, distraction, and crisis. Overproduction, of both materials and messages, compounds a multivalent multiviolence of attacks and anxieties that conditions the contemporary.



↗ Page 39

In response, resistance, and respite, we, the experimental publishing collective *continent.*, reconstitute for *Where is the Planetary?* and, thereafter, around the idea of *détente*. *Détente* – as a rest or pause, or penultimate repose that occurs – creates and accommodates. *Détente*, as a stirring of the broth between cultivation and consummation. *Détente*, as the gap between inhale and exhale that precedes dialogue. *Détente*, as the *snap!* of the clapboard, used in film to realign and integrate picture and sound, intention and action. *Détente*, as the glint of a flashbulb, followed by the high-pitched whine of a recharging capacitor. *Détente*, a break between the word and the thing, revealing the animacy of both. *Détente*, as the terse, pregnant jubilation between a joke and its punchline.

Détente, a becoming, the latent potential of the present moment. *Détente*, an open invitation to begin, always again, and always together, to tell many other intimate stories of, with, and on this planet.

As a process and intervention for *Where is the Planetary?*, *continent.* begins again, through a collaborative process of storytelling, narrative-making, and recomposing. Reflecting connected and disconnected fragments, soft scenarios, and slow scripts from the event’s space, place, and people, we try to make more public and reflective ongoing dialogues with participants and publics. We wish to give space to generative hiatuses, temporal cuts, and expectant, even awkward, inter-missions. Malleable and anticipative, could the delayed entanglement of *détente* serve to suggest infinitely adaptive otherways that are otherwise?

Supposed imminent ends are juxtaposed to an infinity of time, a plenitude of energies, and the fruitfulness of restful reflection. We recognize important stories of impending catastrophe. Yet, we have no time to rush into “the future.” *Slower* might be the fastest way to get to where we want to be. The Earth belongs to itself, and we to it. “In the same way an apple tree apples, the earth peoples,” said the psychonaut Richard Alpert (Ram Dass). And peoples *story*. We wish to gratefully pause and reflect on this heritage, asking how we tell planetary stories. It is in states of *détente* that we have come to understand that what is important is not “what to do” (*quoi faire?*) but “what to do next.”

Cosmological Interventions

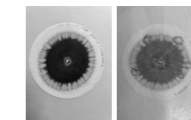
Claire Pentecost

Environmental and systems scientist Donella Meadows alerts us to leverage points: “Places within a complex system (a corporation, an economy, a living body, a city, an ecosystem) where a small shift in one thing can produce big changes in everything. [...] Leverage points are points of power.”¹ She outlines a list of leverage points in a typical system in order of increasing effectiveness; the ultimate point, where seismic change occurs, is the level of the paradigm that informs the entire system. I call that cosmology.

I have been consulting cosmograms from various places and times but have yet to find one suited to our moment. I aim to find a way to represent an Earth-centered

cosmological vision. Can we imagine a *form* that accommodates our cosmovision? A form that expresses the internal structure of the cosmos as seen from the position of an Earth-dependent being?

How do we form-alize our cosmological orientation? I am considering the form of the fold and the consequent involute, configured to illustrate a space of intersecting *Umwelts*, and *Umwelts* within *Umwelts*. I am using a sample of soil chromatography to anchor the schema, as soil itself is a cosmos, locus of the transformation of death into life.



↗ Page 39

How can we transform deadly habits into something cultivating the living pluriverse? “Something in you has to die,” says Cornel West to those who would study philosophy. I assume he means that true learning requires change, including perhaps the sacrifice of a cherished idea, a habit of thought, an unexamined belief. A number of strategists attest that in order to “sell” adaptation to catastrophic disruptions of Earth systems, it’s important to maintain that people will not have to give up anything. This is deluded or dishonest. Right now, we are paying a devastating price for our appetite for cheap energy; we will pay a different price to learn new ways of cohabitating – *but few things make you feel more alive than learning!*

What is it in us that needs to die in order for a new paradigm to emerge? Alternatively, let’s start with the things you love most about your life right now. How can we hold on to the most beloved qualities of life while forging a new relationship with the planetary? What are the parts of your life that you wish you could change? Can these desired changes evolve in the direction of healing our planetary relations?

¹ Donella H. Meadows, *Leverage Points: Places to Intervene in a System*. Hartland, VT: Sustainability Institute, 1999.

Seek Holes and Occuli

Rebecca Snedeker

A planetary narrative ...

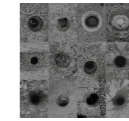
1. is fractal, and/yet usually is situated in place and time. The scope vibrates between macro and micro and involves nesting in relation to other scopes and places in the local and universal.
2. contains multiple perspectives and draws from multiple knowledge sources. The story may defy or challenge current human paradigms.
3. has no beginning and no end. The storyteller may pick start and end cues for a particular telling, but the situation described has no start or finish and exists in cosmic time. The matter is always evolving.
4. is a response to a question.

How do we compose planetary narratives?

1. Articulate an investigation – a question or nagging curiosity that tugs for a response and creates unrest unless addressed.
 - a. You might form this inquiry, or you might ask other(s) what question they would like you to address with your research or storytelling.
 - b. View this query through a lens of vast curiosity.
 - c. Identify related place(s) and time(s).
 - d. Resist placing humans in the foreground. When you move them toward the background, what other entities (e.g., plants, animals, elements, objects, locations, souls) emerge? If this doesn't come "naturally," keep practicing.
 - e. Beware of feeling like human concepts (e.g., race, class, gender, equity, diversity, inclusivity, justice, colonial extraction) are outdated. Beware of vague references. Find ways of understanding how the phenomena they represent are operating.
 - f. Dismiss preconceived answers.
 - g. Dismantle jargon and see in present time.

2. Research, pursue understanding, and collect morsels.
 - a. Identify a variety of knowledge sources.
 - b. Consider ethics of engagement and patterns of extraction, reciprocity, editorial control.
 - c. Work solo or with others. If the latter, forge conscious agreements that can be updated.
 - d. Learn everything you can. Listen, read, witness, choreograph improvisational settings, and document.
 - e. Welcome surprises.
3. Begin to quilt narrative elements to animate your story or theory.
 - a. Do your best to make it beautiful. Experiment with what this means.
 - b. Arrange the pieces. Use pieces that serve both structure and beauty.
 - c. Pull forward, like taffy, the strands that are revelatory and stubborn; images that are essence.
 - d. Arrange and rearrange the story via multiple methods (storyboarding, color-coding, object arrangement, timelines, flowcharts, etc.). Marvel and behold.
 - e. Where it's murky, make cuts and seams.
 - f. When you're lost, bifold or rotate the whole and see new paths.
 - g. Allow patterns to surface. Consider: What would replicating this pattern invite from others? Is the pattern useful? If not, what pattern would be useful in its place?
 - h. Pay attention to revelations; integrate them.

4. Challenge the narrative repeatedly. See what you can glean.
 - a. Extend it far down and up or out (space), and far back and forward (time).
 - b. Plumb every contour for the deepest understanding possible of the whole.
 - c. Seek holes and oculi.
 - d. Continue to dismiss preconceived understandings.
 - e. Pull in and imagine counterforces that upturn/upend/disarm and demand a fresh vantage. Shoot for catalytic.
5. Finalize a version, even though it portends unknown consequences.
6. Share this planetary narrative. Listen to the responses. Engage with them. Remember there is room to process all that surfaces.
7. Repeat. Experience a shock when it feels like the first time.



➤ Page 42



From: Koki Tanaka.
Koki Tanaka, *Provisional Studies: Workshop #7, How to live together and sharing the unknown*, 2017

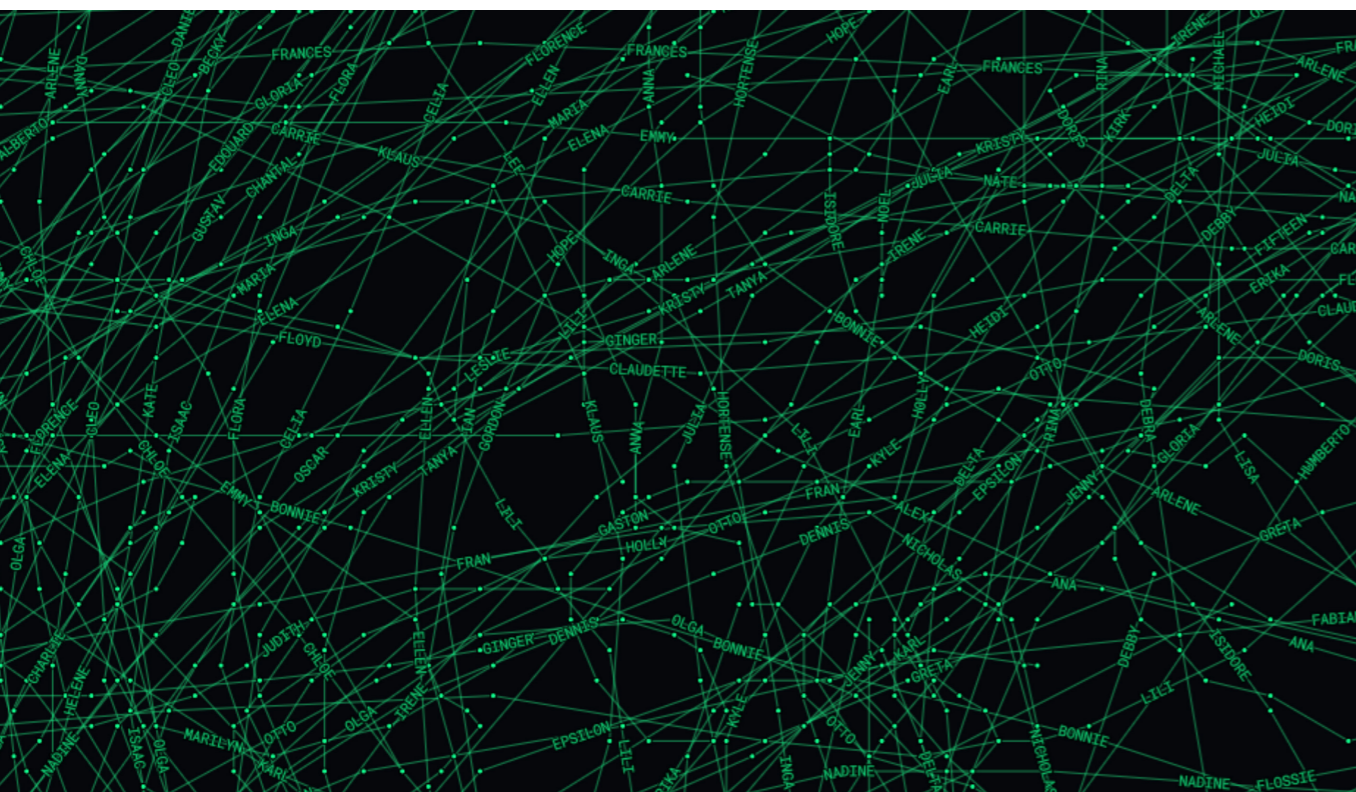


From: Claire Pentecost.
Claire Pentecost



From: continent.
Nina Jäger / continent., Still from *Untitled (détente.)*, 2022

From: Gary Zhexi Zhang.
Gary Zhexi Zhang and Agnes Cameron, *U.S. hurricanes, 1900-2000* from *The First 10,000 Years*, 2020



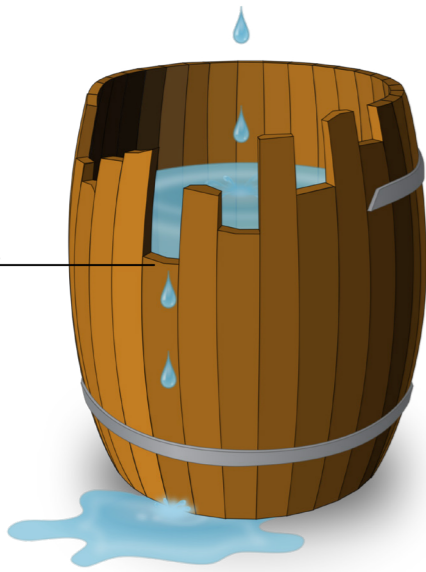


From: Mark Williams.
Jennifer Horn, *Ocotillo and Lookout Mountain, Phoenix, AZ, 2006*, public domain



From: Felipe Castelblanco.
Felipe Castelblanco, *Still from West of the Sun, 2017*

Minimum



From: Maria Chehonadskih.
Liebig's barrel, illustration of Liebig's law of the minimum, public domain

40 41

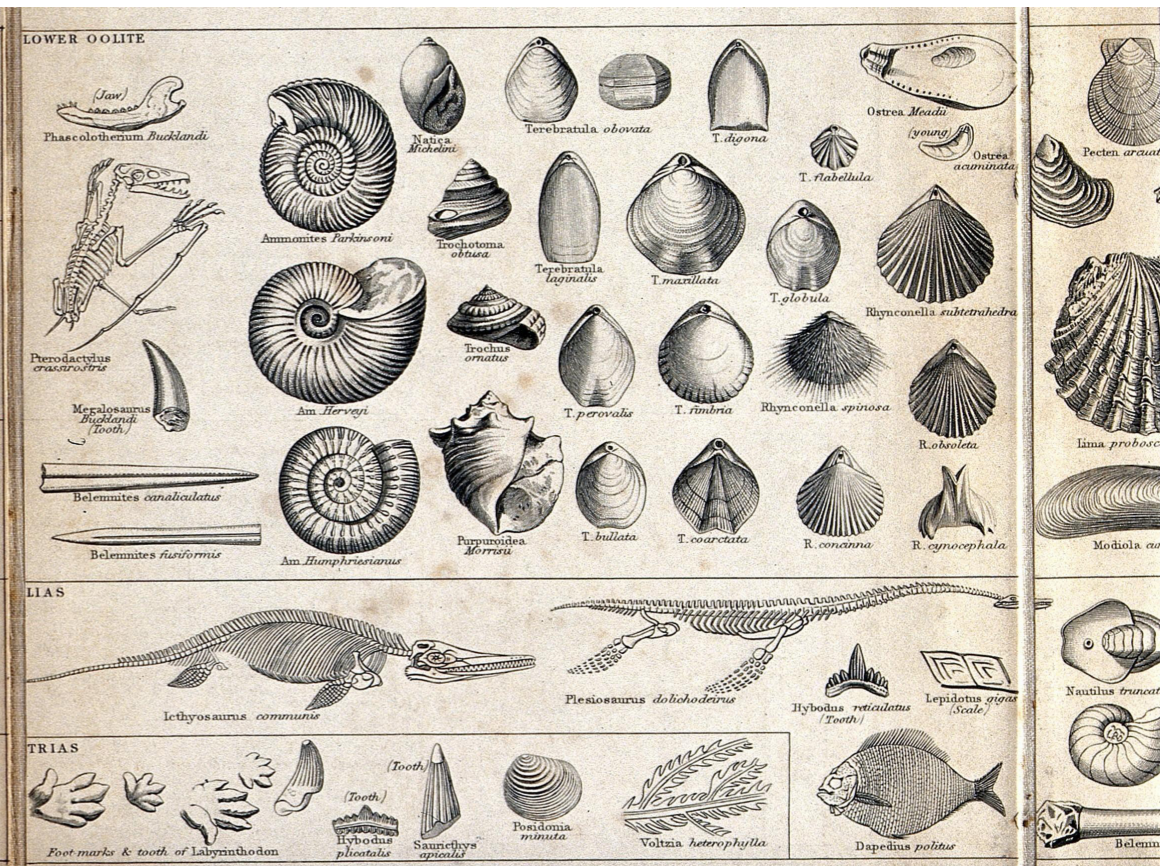
From: Margarida Mendes.
Margarida Mendes, *Clam diggers walking into the low tide in Tejo river, Lisbon*, field work picture, 2022

From: Simon Turner.
Mesozoic British fossils, arranged in a stratigraphical order with a legend on the left side and captions under each fossil, etching, n.d., Wellcome Collection, CC BY 4.0

From: Lisa Baraitser.
Saul Baraitser, *Prometheus and their birds*, fabric and charcoal on hessian, 40 x 60 cm, 2022



M E S O Z O I C	O O L I T E	Combrash Limest. Forest Marble & Bradford Clay	A coarse shelly limestone with cherty and calcareous sandstones. Limestone sometimes crystalline & occasionally marly. Abundance of fossils. Pale greyish clay with a small portion of calcareous matter and enclosing thin slabs of tough brownish limestone.
		Great Oolite (Bath Freestone) Stonesfield Slate Fullers Earth	Shelly Oolitic limestone, more or less compact, sometimes sandy (Bath Freestone) above & below are beds of shale & sandstone containing a abundance of Ferns & Cycadacea. Gritty siliceous limestone of a slaty structure. Beds of Clay containing Fullers Earth.
		Inferior Oolite and Ferruginous Sands	Coarse limestone, often very shelly, oolitic; sometimes argillaceous, the lower part frequently interlaminated with sand. Ferruginous Sand - concretions of sandy limestone - sometimes Ironstone & Sandstone.
		Upper Lias Clay Marlstone Lower Lias Clay Lias Limestone	Various beds of dark coloured clay - Alum shale - Sandy limestone - Sandy shale - Calcareous sandy & iron beds. Many fossils. Dark clay or shale with many layers of argill. to - calcareous nodules. Argillaceous limestone stratified & divided by bands of clay. An abundance of Fishes & Marine Reptiles
		Variegated Marls Never Red Sandstone	Variegated Marls, Sandstones & Conglomerates containing the principal deposits of Gypsum & Rock salt. Various beds of greyish red Sandstone, frequently micaceous & argillaceous.





From: Rebecca Snedeker.
Rebecca Snedeker, Holes and
Oculli #4, photo montage, 2022

From: Valentina Karga.
Valentina Karga, Sketch from
Connecting to our prehistoric shelves,
a speculative research project, 2022

فلسطين •

عزت الهيئة الاحلامية نواب مجرب
وسيرى الخمدى والنوبى واصدق والقدسي
لسوء تصرفهم

تأبى
اغداً منها غيراً عموماً يتبين اول من
من انجبين يهدى ما قطع من وجود
اصابة بالكوليرا فيها طر من كل صفة

بيروت
- حسب صاحب جريدة الرأي العام
المضام من وثيقة لتتبع الامراض
- بلغ عدد المصابين بالكوليرا في
مصر بيروت حتى شهر الاخير خمسة اشخاص
والزوايا اربعة
- حسب حريق جديد في بيروت في غضون
ساعات، انفجار من الساعة الى الساعة
ديلا ولا يتروى الحزن المذكور ويجوز
عنايه

طرابلس
قال مدير جدهى الجيايزة الفرنسية
التي وصلت القدر من ميناء طرابلس الشام
٤٨٠ وراكا والايامية ما يقارب هذا
العدد من ذلك الميناء وجميعهم على ما حال
من اصحاب الامتياز العسكرية من اهل
ولاية حلب وسوريا وجناب الصحوة وتا
مخادم من لغة من هولاء المهاجرين القوموا
في حدود طرابلس الشام ما كانت مدممة حصة
ايام ولم يتروى شارة اوجعوا الا زاروه
واغداً ما يتصاوه

الى مدير طرابلس
فقر مجلس ادارة ولاية بيروت اخذ
مدير دارية الاوقاف الخافاني تحت المراقبة
لاخطائه مندقات طابو يعض الاملاك
الوقفية المانعة لاطالمة المأبوية سيغ
بيروت الى وثيقة للطران طوبا اعتباراً
بان الاملاك التي باسم الزهان لا توثق
بل ترجع للاوقاف الملية
عديه روسيه

كان اول من لمس البؤبر الروسي
لازروف) راسياً في ميناء بلدنا
وقبل ان يعرف مريانه لحظ قطبته ان
واكبا من المسافرين الى بيروت سعيد
قد اسبب باغراض الكوليرا فترسا احد
اصحاب القوارب الدعور القرقع الهربي
ياثريين اشدهم من جيبه المصاب التي
كانت تحوى ١٨ ليرة؛ فاستل صاحب
القارب هذه المعدية الروسية وجاء بها
الى البلدة ومن لطف التولى تقياء الرجل
وهو صاحبى الاشكال قبل ان يدخل
المدينة فردد التوقية وهربوا وترتب
حالا النطاق الصعي على من كان هناك
وعلى مأموري الوكالة الروسية الذين

خضروا بمد ذلك بقارب اخر - وقد
اسرع قائدهم البلدة واركان الحكومة
مع ستة من الاطباء الى الكركك وناظروا
المصاب فوجدوا كافة اغراض الكركك
ولكن فحص البراز ميكروسكوبياً لم
يجدهم بجزءوا بصبغة المارش - وراس
الجمعة نقلوا المصاب الى شيفه بصيها
على بعد ساعتين عن يافا ووجدوا الخز
الذي حولها وكذا نقلوا مأموري الوكالة
الروسية والاطباء الذين خاطروا في
شعب اشرى نسبتها الحكومية في نونى
الكلخانه - اما المصاب فل على حتى
كتابة هذه الايام والوفى التي الله
وهرب وضمت الحكومة نطقاً عسكرياً
حول شيه

وقد كنا من حضر الحادثة وناها
طول الليل ان نورد بذكر في رايه
وقومسير البوليس خصوصاً وبقية
المأمورين عمومياً الذين اسخطوا غلدهم
المضوية احسن احتياط وسهروا حتى
الصباح في اتمام واجباتهم
مير بوسنة القدس

اغداً من مدير اليوسفة الشافية في
القدس رقعة تصح فيها على ما ذكرناه
تلا عن بعض المشتركين هناك من ان
الجريدة لا تصلهم - وقد ذكر المدير
الفاضل في وقته ان الاعداد تسلم
بدأ يد الى اصحابها وطلب منا معرفة
اسماء الشككين وتريهم ان يراسموه
فحين نشكر خضرته على هذه الاعداد
ونشكره بالاكتر على غيرته على عمدة
بيوسنة الوطنية وراسمه اني كما يسما
ما يدل على شموه حي في الرجل

موت فباني
فرب الساعة الخامسة من صباح
امس نينا كان الوسيو (سفير) للمدير
الفاي لينك الاكبر وقتاً في عزنت
الجوازا المراقى حوى الى الارض
فاحتاط به الحاضرون ورفعهو بيتاً وقد
قرر الحكماء بعد الفحص انه قد يدها
المسكة القليلة

كان الرجل رحمه الله في القعدة
الاربية من حسن المعاشرة صادق
الواد عميراً من الجميع لينا مشاهلي في
معدلاته كافة وكان يولوا باداب الله
الفرية ما يما يبروتيا كسنا كاحسن
ايامنا فحين عزي ما التعلل يعل هذا

المصاب النادر وبشارك اسفاده في
حزنته على الرامل التي كان كثير
الحيون والاصدقاء

بين الخواص في يوم صااب
فورت المدينة اعرض حرف مبلغ ٢٠
الف غرض لاجل تايير البلدة وانقاذ
اسباب الرماية من الموار - اذ في ذلك
بلدان البلدة على هذه السنة

شؤون اورشون كسبية
القدس - لم نسلنا
الهاش الخياط - عتقد هذا الهاش
جلسة تبار الاربعا من هذا الاسبوع
بغيبات متوالي يافا والساطع وبتفردات
الوقام قدم مندوب عكا والناصرة
تقريباً يعترضان فيه على قانونية اجراءه
الافتراق - فاعترض مندوب القدس
على هذه الماطلة مع رجال المدير ليكون
للمأمورين عمومياً الذين اسخطوا غلدهم
عاطفة التصرف واصر على اجراءه
الرقعة وقد راعين دافعة بعضى بها
عتويات التقريز ورويا يرسل ذلك
ليشتر في جريدتك كما تعود من حين
استلامه هذه الوظيفة

مواجهة التصرف - - واجهه امس
وقد اللة عطوفة التصرف وذكر له
ساعاته التي تقدم للجبابر الخياط
وما جرى في جلسة ذلك النهار فاجاب
عطوفه بان الجواب على هذا التقريز
يرجع لي وعند انه يشرح عليه اللازم
ثم سأل الوفد عن التعلبات التي وردته
من الاساتذة فقال له اني سانسح لهم
عنا نسهه وامنيح ايها فدا اومعه

مدير الطابو - اخبرني صديق ان
مدير الطابو قد ادرك ما تزمي اليه
الرهان فتجنهم كتب الاستاذات
سبهم واقسم ان لا يتم في التسغيل
مباينة للمدير بقصد منها احصاة الوقت
فحين نريد تصديق هذا الخبر ونشكر
المدير الفاضل اذ اقام بوعوده ورجوه
ان يبيننا اذا كان ذا وجدان حر على
المسائين الاثين

(٤) اسبح ان الارض التي وعيا دير
الروم بعبيراً من الجميع لينا مشاهلي في
معدلاته كافة وكان يولوا باداب الله
الفرية ما يما يبروتيا كسنا كاحسن
ايامنا فحين عزي ما التعلل يعل هذا

في تلك القعة
٢ اسبح ان المدير يقصد اعطاء
الهاش البلدي قعدة ارض متبدة باسم
الخبيرين وراسي ٣ الاف ليرة

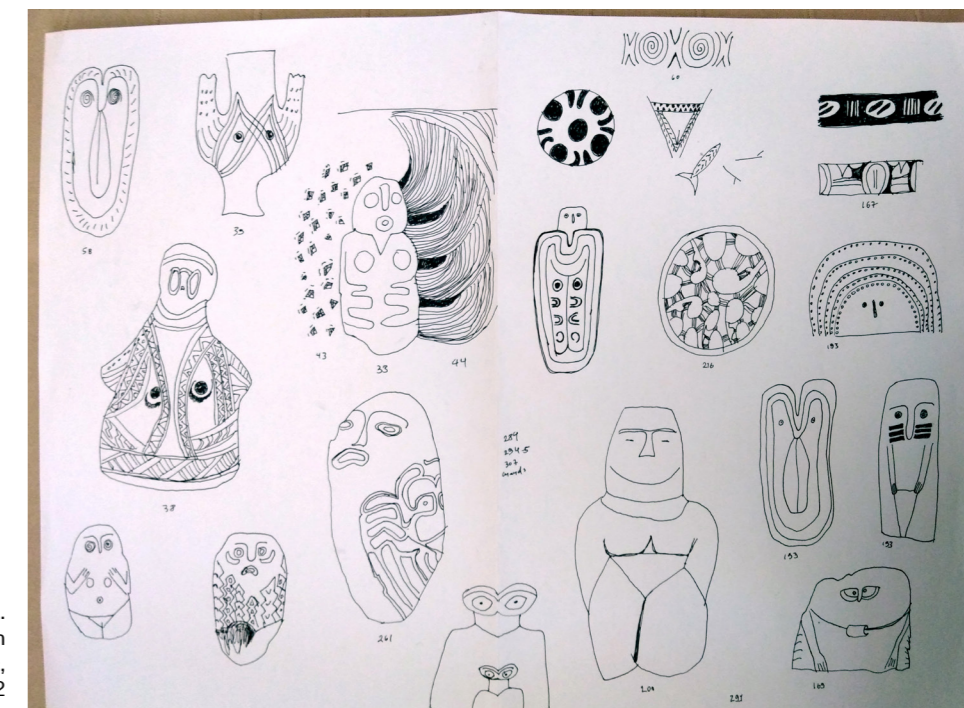
ندرسنا من خطاب جرحي اندي
الذي جعله الذي صنعاه في كسبية
مار يعقوب حيا كتابا في القدس وذلك
تشيحاً لفاشته اماله وانجاها هذا التي
الذي نظره بناد بحدب حصره قاصاب
مفده

ايها القويش لكثرة الكثرة هذا المنظر
ان بين قوتك ترق لا يريد لك التبع
قائدين من وسلك ولا توري اذتلك
اسماع ما يتفقه لله للمفوه روح الفس
الدواء لانه يتقرب اليك بالظهور الخارجة
منظرة الضلع والقدام والرايه والتزيين
ولكن والفاق الى غير ذلك مما يثير
منه الادب والمادون - عجا ايدري
مذلا فان ما الذي م عافه سياستهم
اغرفه وامعلم القاري لشرعه الانسانيه
والادبيه المبدون اية قبيحه سبتا
عن هذه الميادي الساطعة والاخلاق
البله الا يجلدونهم لاجدون بذلك الا
في القهر وان اقل ما هناك قل الصبر
وامانة الصواب من الثور للمصح
وما حياة نفس ايا الاخوان اذا ذم
اسماها وقد تهوروا وادت عواطفها
لانه اذا خلا نفسه صاحب لك النفس
والى راسه وسلك اليه بينج على وساد
الرحمة - يسبح من وقع امنة الضمير وانطرام
تيران الاساس والاندلسا بين الارض
والسما

المخبر الصلي الى يافا
علما في ارضه ان الشغف المصاب
قد تروى وان مرضه كان الكوليرا وان
نظارة الصحة عرت حجراً صعباً
على مدينتنا

المدرسة المستوربية الوطنية
في القدس
تقبل الطلبة من اي مذهب كان
لاعرض لاحد في دينه الغرض الذي
تزمي اليه من التربية تقوية القدر
للاذلا فاولا، الفرائز والايام الصالحة
لإحاربتها وامها على تخني بالامام
الريانية والتاريخ العسكرية غناية
خصوصية، تشي الطلبة على مبادي
المتنوع وترتيبهم على الاخلاق الكريمة
والاداب الرفيعة والمبادئ الصحيحة
وتعهد فهم عاطفة الاخاء وعاطفة
الطيرة المنارة وتشرح اللذلال
فرحكا في بدان الاطفال و٦٠ فرنكا

From: Adania Shibli.
An announcement for the
constitutional school in a Palestine
newspaper, February 9, 1911



From: Valentina Karga.
Valentina Karga, Sketch from
Connecting to our prehistoric shelves,
a speculative research project, 2022

The Anthropocene at HKW

The event *Where is the Planetary?* forms part of a series of projects that throughout 2022 explore the geological record and the sociopolitical implications of the Anthropocene.

These projects are the culmination of a decade of work on the Anthropocene at the HKW. In a multitude of exhibitions, installations, conferences, workshops, performances, and publications, the HKW has continually attempted to make the planetary and crisis-ridden transformations of the new geological epoch understandable, experienceable, and shapeable.

A central element of this work is the *Anthropocene Curriculum* project, in continuous development since 2013 in cooperation with the Max Planck Institute for the History of Science, Berlin. Together with numerous partners worldwide, the project attempts to test and enable new forms of collaborative knowledge production and cooperation between science, art, and activism.

The research platform anthropocene-curriculum.org provides a comprehensive overview of the ongoing activity of the project.

Are we already living in the Anthropocene? Over the past several years, the Anthropocene Working Group (AWG) has been investigating stratigraphic evidence for the new Earth epoch all over the world. On December 8 at HKW, the scientists of the AWG will introduce their candidate for the geological reference point – or “golden spike” – of the Anthropocene.

Ravi Agarwal is an interdisciplinary artist, environmental campaigner, writer, and curator. His work bridges the divide between art and activism, to politicize the entangled questions of nature and its futures. Agarwal is also the founder-director of the environmental NGO Toxics Link, which works on municipal waste management, and the recipient of the UN Award for Chemical Safety as well as the Ashoka Fellowship. He is an engineer by training.

Mohammad Al Attar is Syrian playwright, theater maker and essayist. His work takes place on the boundary between fiction and documentation. His plays such as *Aleppo. A Portrait of Absence*, *Iphigenia*, *The Factory*, and *Damascus 2045* were staged at various international theaters and festivals around the world. He is considered an important chronicler of war-torn Syria.

Lisa Baraitser is Professor of Psychosocial Theory in the Department of Psychosocial Studies, Birkbeck, University of London and a psychoanalyst in practice in London. She is the author of *Enduring Time* (2017) and has written widely on motherhood, ethics, care, and temporality. She currently co-leads a Wellcome Trust research project on waiting and other forms of elongated time, as they play out in health care systems “in crisis.”

Felipe Castelblanco is a multidisciplinary artist. His current work activates avenues for biocultural peace-building through participatory art and media in the Colombian Andean-Amazon region. He is the founder of the Para-Site School, a project that infiltrates the university to serve artist-migrants excluded from the higher education system in the US and Europe. In 2015, Castelblanco served as Cultural Emissary for the US State Department to the Philippines.

Maria Chehonadskih is Associate Lecturer at Central Saint Martins – University of the Arts London. She received her PhD in Philosophy from the Centre for Research in Modern European Philosophy, Kingston University, UK. Her research concentrates on Soviet epistemologies across philosophy, literature, and art, as well as on post-Soviet politics and culture. Her book *Alexander Bogdanov and Soviet Epistemologies: Transformation of Knowledge after the October Revolution* is forthcoming in 2023.

Shadreck Chirikure is Edward Hall Professor of Archaeological Science, Director of the Research Laboratory for Archaeology and the History of Art, and British Academy Global Professor at the School of Archaeology, University of Oxford. He specializes in the application of scientific techniques to address questions related to skills, knowledge, and how they were applied in the past to solve problems.

Myung-Ae Choi is an environmental geographer looking at the cultural, political, and technological aspects of nature conservation in South Korea and broader East Asia. Her projects include whale and dolphin conservation, cranes in the Korean Demilitarized Zone, and environmental AI. Choi conducts research at the Center for Anthropocene Studies in Daejeon, South Korea.

continent. is a collective artistic and editorial experiment that conceptually explores the concept of détente using various forms of “slow publishing.” Détente describes a process of opening: in and between the fronts of love and work, of contemporaneity, philosophy, art, science, mediality, politics, and the planetary. For *Where is the Planetary?*, continent. is represented by Jamie Allen, Paul Boshears, Nina Jäger, Lital Khaikin, and Anna-Luisa Lorenz.

Kai van Eikels combines philosophy, theater, and performance studies in their work. They are currently teaching at Ruhr-Universität Bochum. Their research topics include collectivity and the politics of participation, art and labor, synchronization, time and matter, and queer cuteness. Their latest book is *Synchronisieren. Ein Essay zur Materialität des Kollektiven* (2020), which poses questions about the ethical and political criteria for our dealings with the materiality of the collective.

L. Sasha Gora is a cultural historian and writer with a focus on food studies and contemporary art. She received a PhD from Ludwig-Maximilian-Universität München and the Rachel Carson Center for Environment and Society on the subject of Indigenous restaurants in the lands now called Canada, which is the subject of her forthcoming book, *Culinary Claims*. Her research concentrates on the relationship between food and migration, on restaurant politics, and on how human appetites transform environments.

Orit Halpern is Full Professor and Chair of Digital Cultures and Societal Change at Technische Universität Dresden. Her work bridges the histories of science, computing, and cybernetics with design. She completed her PhD at Harvard University, Cambridge, MA. Her forthcoming book with Robert Mitchell, *The Smartness Mandate*, is a genealogy of our current obsession with smart technologies and artificial intelligence.

Valentina Karga is an artist and architect. Her work operates between art, design, research, and architecture. It draws together elements of socially engaged practices and speculative experiments that question the existing social and physical infrastructures within the realms of energy, economy, and sustainability. Her work has been exhibited internationally. Since 2018 she has been professor at Hochschule für bildende Künste, Hamburg.

John Kim is an artist, activist, writer, and educator. He has been creating work about the Mississippi River, including its environmental and social history, as an interconnected ecological and cultural corridor. Kim is the author of the book *Rupture of the Virtual* (2016) and has exhibited interactive art, sculpture, video games, and software in galleries and festivals around the world. Kim teaches in the Department of Media and Cultural Studies at Macalester College, Minnesota.

Katrin Klingan is a literary scholar, curator, and producer of art and cultural projects. Since 2011, she has been a curator at the Haus der Kulturen der Welt developing research projects that explore the entanglement between human culture, natural environments, and global technologies, as well as structures of inequality and asymmetrical power relations. Together with Christoph Rosol, she heads the *Anthropocene Curriculum* (since 2013), a project that explores pathways toward a new interdisciplinary culture of knowledge and education in an experimental and collaborative manner.

Francine M. G. McCarthy is a professor in the Department of Earth Sciences and appointed to the Department of Biological Sciences and the Environmental Sustainability Research Centre at Brock University, Canada. Her research focuses on using microfossils to reconstruct paleoenvironmental conditions. She is a voting member of the Anthropocene Working Group, which explores formal definitions of the current human-dominated geological epoch.

Margarida Mendes is a researcher, curator, and educator exploring the overlap between experimental film, sound practices, and ecopedagogy. She creates transdisciplinary forums, exhibitions, and experiential works that catalyze political imagination and restorative action. Mendes has long been involved in anti-extraction activism and ecopedagogy, collaborating with marine NGOs, universities, and institutions of the art world.

Claire Pentecost is an artist and writer who researches the living matters of the unified multidimensional being that animates our planet. A long-standing interest in nature and artificiality predates her recent responses to anthropogenic earth system change. Pentecost has exhibited work nationally and internationally and is Professor Emeritus at the School of the Art Institute of Chicago.

Jahnvi Phalkey is the founding director of the Science Gallery Bengaluru. She has been a fellow at the Wissenschaftskolleg zu Berlin, an external curator at the Science Museum in London, and a scholar-in-residence at the Deutsches Museum in Munich. Jahnvi is the author of *Atomic State: Big Science in Twentieth-Century India* (2013) and co-edited *Science of Giants: China and India in the Twentieth Century* (2016).

Patricia Reed is an artist, writer, and designer. Her work addresses social transformations of coexistence at planetary dimensions, focusing on the interactions between world models and practices of inhabitation. Recent essays appeared in *Chimeras* (2022) and *Geognostics* (2022). Reed is a co-author of the *Xenofeminist Manifesto* (2015), written as Laboria Cuboniks. A Spanish compilation of Reed's writings will be published in 2022.

Sophia Roosth is an anthropologist writing about contemporary life and Earth sciences. She is Associate Professor at the Gallatin School of Individualized Study, New York University. She is a Max Planck Society Sabbatical Award Laureate and has published widely in journals including *Critical Inquiry*, *Representations*, and *differences*, among others. She is the author of *Synthetic: How Life Got Made* (2017).

Nishant Shah is Endowed professor of Aesthetics and Cultures of Technology at ArtEZ University of the Arts and Radboud University Nijmegen, Netherlands, as well as Faculty Associate at the Berkman Klein Centre for Internet & Society, Harvard University, Cambridge, MA. He is a feminist, humanist, and technologist and works on questions of human care, collectivity, and social justice inflected through digital technologies.

Adania Shibli is an author and researcher. She writes fiction and nonfiction. She has been teaching part-time in the Department of Philosophy and Cultural Studies at Birzeit University, Palestine, and elsewhere with focus on cultural studies and visual culture.

Fernando Silva e Silva is a researcher, translator, and teacher. He holds a PhD in Philosophy. He writes and teaches at the intersection of environmental studies, metaphysics, history of sciences and philosophies, science fiction, and anthropology. He is one of the founders of the Brazilian collectively run research and teaching association Association for Research and Practice in the Humanities and coordinator of the Research Group in the Ecology of Practices.

Rebecca Snedeker is James H. Clark Executive Director of the New Orleans Center for the Gulf South at Tulane University, where she investigates how understanding of place relates to human agency and climate destiny. Prior to this, Snedeker co-authored *Unfathomable City: A New Orleans Atlas* (2013) and created documentary films.

Nikiwe Solomon is a lecturer in anthropology and acting Deputy Director of Environmental Humanities South at the University of Cape Town. Her current research explores the complex networks of relating in the Cape Flats-Muizenberg area of Cape Town. Drawing on critical zones research approaches, her research explores contaminant politics in the context of material and nutrient flows from ground to air in the region.

Koki Tanaka's art practice includes video, photography, site-specific installations, and interventional projects, in which he visualizes and reveals the multiple contexts latent in the most simple of everyday acts. Following the Fukushima nuclear disaster, he has employed a variety of methods to produce works on the relationality that arises between human beings; they are what Tanaka calls "collective acts": experiments of various sorts that still lack a fixed destination.

TINT is a queer feminist filmmaking collective based in Berlin. The collective conceives, writes, shoots, edits, and directs performance films, political campaigns, reportages and their own documentaries, such as *Subject Spaces* (2020) and *Why Working Together* (in production). In addition, TINT offers workshops on various film-specific topics for children, teens, and adults.

Simon Turner is a senior research fellow in geography at University College London. He investigates the changing composition of sediments, illustrating the range of human activities that can be identified. His PhD was an investigation of coastal wetlands in Sicily. He is the scientific coordinator for the Anthropocene Working Group and Haus der Kulturen der Welt collaborative project to seek a Global Boundary Stratotype Section and Point for the Anthropocene.

Mark Williams is a paleontologist at the University of Leicester, UK, and a long-time member of the Anthropocene Working Group. Much of his work focuses on the current state of life and how its diversity is threatened by human activities in the Anthropocene. He has co-written several books that examine the special place of the Earth in the cosmos, most recently *The Cosmic Oasis: The Remarkable Story of Earth's Biosphere* (2022). He co-authored *The Anthropocene: A Multidisciplinary Approach* (2020).

Mi You is Professor of Art and Economies at the University of Kassel. Her academic interests are in the social value of art, new and historical materialism, and the history, political theory, and philosophy of Eurasia. She was one of the curators of the 13th Shanghai Biennale (2020–21). You is Chair of Committee on Media Arts and Technology for the transnational NGO Common Action Forum.

Jan Zalasiewicz is geologist, paleontologist, and stratigrapher. He is Emeritus Professor of Palaeobiology at the University of Leicester, UK, and a member of the Anthropocene Working Group. He has taught on and researched geology and Earth history, in particular fossil ecosystems and environments that span over half a billion years of geological time. He most recently published *The Cosmic Oasis: The Remarkable Story of Earth's Biosphere* (2022).

Gary Zhexi Zhang is an artist and writer. His recent work explores phenomena at the boundaries between speculative belief and the material world, such as natural disasters, scam nations, and cosmic economies. *Dead Cat Bounce*, an oratorio he made in collaboration with Waste Paper Opera, premiered at Somerset House, London. Books and chapters include *Against Reduction: Designing a Human Future with Machines* (2021) and *Catastrophe Time!* (forthcoming).

Where is the Planetary?
A Gathering | In Collaboration with Koki Tanaka

Oct. 14–16, 2022
Haus der Kulturen der Welt (HKW), Berlin

Where is the Planetary? is part of *Evidence & Experiment* (2019–22), in the framework of *The New Alphabet* (2019–22), supported by the Federal Government Commissioner for Culture and the Media based on a resolution of the German Bundestag.

hk.w.de/en/planetary

HKW

Booklet

Editor: Katrin Klingan
Editorial office: Julia Büki (Head), Andreas Doepke, Niklas Hoffmann-Walbeck, Janek Müller, Lesia Prokopenko
Editor Research Notes: Lesia Prokopenko
Design: Markus Jansky
Copyediting: Jaclyn Arndt, Jemma Rowan Deer, Martin Hager
Translation: Andreas Doepke, Niklas Hoffmann-Walbeck, Johanna Schindler, Colin Shepard
Proof Reading: Jaclyn Arndt
Printing and binding: Primeline Print Berlin

Team

Curatorial direction: Katrin Klingan
Concept and realization: Nicholas Houde, Katrin Klingan, Janek Müller, Neli Wagner
Artistic Lead: Koki Tanaka
Facilitation: Lisa Baraitser, continent. (Jamie Allen, Paul Boshears, Nina Jäger, Lital Khaikin und Anna-Luisa Lorenz), Kai van Eikels, L. Sasha Gora, Gary Zhexi Zhang, TINT
Dramaturgy: Janek Müller
Scenographic concept: Christine Andersen, Gernot Ernst, Janek Müller, Koki Tanaka
Project coordination: Virág Major-Kremer
Project assistance: Arianna Cecchetto, Andreas Doepke, Martin Naundorf, Lesia Prokopenko
Production: Raphael Bruning, Quirin Wildgen (Head)
Coordination communication: Julia Büki
Program texts: Andreas Doepke, Niklas Hoffmann-Walbeck
Organization: Jule Benz, Eva Hiller, Angelika Reiss (Head)
Interns: Lea Klafack, Clara von Rohden
Implementation on www.anthropocene-curriculum.org: Jonas Rinderlin, Carlina Rossée
Editorial office: Jemma Rowan Deer, Niklas Hoffmann-Walbeck, Lorna McDowell, Fiona Shipwright (Head)
Anthropocene Curriculum transition process: Megan Black, Jonas Rinderlin, Carlina Rossée (Head), Georg Schäfer

Architecture and Setup

Planning and realization of scenographic concept: Christine Andersen, Gernot Ernst
Head of exhibition construction: Gernot Ernst
Exhibition construction assistance: Christine Andersen
Exhibition construction organization assistance: Elisabeth Sinn
Exhibition construction: Miles Chalcraft, Martin Gehrmann, Nele Goldberg, Achim Haigis, Matthias Henkel, Stefan Höhne, Bart Huybrechts, Simon Lupfer, Sladjan Nedeljkovic, Leila Okanovic, Lucas Recchione, Lukas Reichart, Ralf Rose, Andrew Schmidt, Nanako Seitz, Stefan Seitz, Michael Setz, Ali Sözen, Norio Takasugi, Sophia Vogelsberg, Christian Vontobel

Department of Literature and Humanities

Head: Katrin Klingan
Program coordination: Doris Hegner
Dramaturgy: Janek Müller
Research fellows: Nicholas Houde, Christoph Rosol

Technical Department

Technical director: Mathias Helfer
Technical assistant: Martin Gräff
Head of event engineering: Benjamin Pohl
Lighting master: Adrian Pilling
Hall manager: Benjamin Brandt
Lighting technicians: Bastian Heide, Leonardo Rende
Stage technology: Frederick Langkau, Jason Dorn, Carsten Palme, Nicholas Tanton, Dominik Grzeszczuk, Antek Krawczyk

Audio-Visual Media Technology

Head of Audio and Video Engineering: Jan Proest
Audio and video technicians: Turi Agostino, Andreas Durchgraf, Simon Franzkowiak, Matthias Hartenberger, Michael Hoppe, Felix Podzwadowski, Fernando Quartana, Felix Weck
System administrator: Ronny Held

Department of Communications and Cultural Education

Head: Daniel Neugebauer
Editorial office: Anna Etteldorf, Amaya Gallegos, Moritz Müller, Franziska Wegener, Sabine Willig
Press: Lutz Breitingner, Lilli Heinemann, Jan Trautmann
Digital editorial office: Kristin Drechsler, Anna Leonie Hofmann, Karen Khurana, Jan Köhler, Elinor Lazar, Céline Pilch, Laura Wichmann
Public relations: Susanne Held, Sabine Westemeier
Cultural education: Anna Bartels, Laida Hadel, Katharina Hofbeck, Eva Stein
Research and consultation education program: Angela Dressler

HKW Library

Sonja Faulhaber (archive service for culture), Anja Wiech

Haus der Kulturen der Welt

Director: Bernd Scherer (V.i.S.d.P.)

Haus der Kulturen der Welt is a business division of the Kulturveranstaltungen des Bundes in Berlin GmbH.

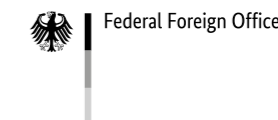
Managing Director

Charlotte Sieben

Chairwoman of the Supervisory Board

Minister of State for Culture and the Media Claudia Roth

Haus der Kulturen der Welt is supported by



How could collaboration maintain a habitable planet? What concepts of the world underlie political and social approaches to a transforming Earth system? How can a variety of worldviews be transformed into shared planetary-scale practices that could address the current challenges?