

Shape of Future Earth

*Other Worlds

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The sense of creating new immediate futures and repopulating the futures space with something entirely divorced from the previous consensus futures.

Warren Ellis

A body stands on the ground. A sound and firm foundation beneath our feet can guarantee a liveable future. Past sensory readings of a body, connected to an influx of new data, allow a forecasting of further happenings. The possible future is interpolated from embodied memory. Thinking through the future is first and foremost made possible by modelling it. Successful predictions are a combination of analysis, identification of possible emerging patterns, and extrapolation. The earth under our feet is constantly being formed as we reaffirm the data. It holds. It holds.

But what can shaking knees do, when the incoming data jump off the chart, when old models suddenly lose their potential, when old prophets can only produce hot air? When knees break, and I need a model fast, is there a leg to stand on? The Earth is large, flat, and my legs are firmly planted. An equal amount of sky and earth is split by the horizon. A divided attention, and divided responsibility for the commotion both above and below. I equally know that flatness is part of a larger curvature, and my erect posture is caused by something in me levitating against the forces of gravity, growing against gravity. My legs firmly planted. Travelling as a passenger on this heavenly body.

But what's happening now, why is the earth cracking?

When I write, asking about the shape of future Earth, I am especially addressing questions concerning the possible sites of epistemic rebellion, questions about how knowing the future becomes

something entirely new. The debate about possible futures is not limited to what new technologies of world-representation will allow, but also which former and current world-representations should be given voice anew. This means talking about the ethical problems of world-mediation. To whom is it beneficial to consolidate or diminish certain dominant ideas about how the world is interpreted?

Enquiring about the shape of future Earth means thinking through scientific paradigm-shifts. First, how flat ground curved into the Blue Marble (when we first observed ourselves from an outside perspective using satellite technology). Then, how the globe fell into the gravity-well of the sun, leading to the acceptance of new physics. And ultimately, how this well-modelled world turns out to orbit the human mind in a nice anthropocentric fashion. At which point did we gain full access to the world? Or why should “the world” translate so well into one of its parts, such that it would be able to exhaust an idea of the whole?

There is clearly some reshaping going on. But, in the middle of multiple epistemic rebellions, the clarity of this shape is somewhat lost, and so it would be helpful to catch our breath. The Moderns,* they

* By ‘Moderns’ I am referring here to the term as it is developed by Latour in *We Have Never Been Modern*.

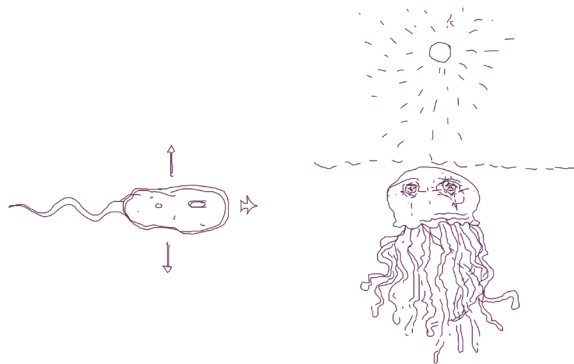
keep rehashing the idea that there exists a special disinterested perspective, one from which objective measurements can be gathered. A singular world can be slowly laid out to correspond to singular truths. They claim their instruments cut the world into finer and more accurate details, that we are getting closer to the centre of the large onion. Objectivity bleeds from many wounds,

but there are still opportunities even for the wounded. The Arcadians paint histories in which the exploitative nature of our current instruments go unaccounted for. To be sure, the past violence committed against bodies, against the Earth, is easily forgotten. At the same time various “magical” practices bring their arguments to the table: “hear us out”, they ask, “this is the ideal technique for wider representation”. As is often the case, however, such rebellions are merely changes of the guard, power remains intact.

We need to somehow make room, to show in what ways certain new perspectives, new models, and new instruments can bring about previously unimagined futures, and, as any good prophecy should, become self-fulfilling in doing so.

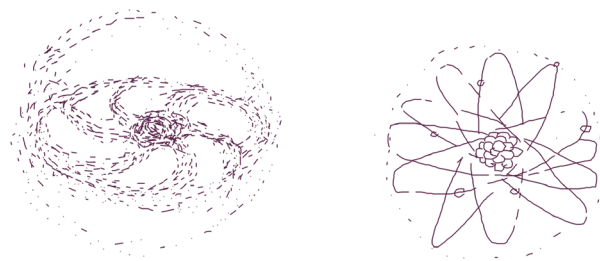
The world is a whole. It is hard to imagine the reality of such a statement that contradicts our intuitive human experience, but the world does not have parts. Reality is one. Either as a total continuum or replete with fine undifferentiated grain. There are no parts unless there is the intention to observe them. The coming-forth of instruments to scrutinise with greater detail paired with intention allows for new parts of the world to emerge. As the unicellular creature develops follicles to propel itself forward in the ocean, orthogonally to this vector, sides—left and right—have come to existence. As the sun collects neural activity, and neurones near the surface bunch up, a new sensitivity is born, the creature now differentiates light from dark. Newer and newer, organic or anthropogenic, protein or heavy element instruments allow for an increasingly finer cutting of the world continuum; to create parts of

the world. Each new instrument allows for the mutually non-exhaustive cutting of reality, making multiple perspectives possible.



For humans, the world is mediated through a set of well-tuned sensory complexes. As alien as it might sound at first, our experience is not that different from that of a newborn baby, which is immediately after birth administered with virtual reality goggles and well-tuned kinetic sensors all over its limbs. By opening our eyes, we start this protein-instrument-driven model-making enterprise. To allude here to the Theory of Light by Goethe: the eye sends out sensors, informants, light rays, to sense, feel, lick, to savour the world. And at the same time light rays blindly fumble through an entirely lightless universe, returning with newly discovered information converted to colour. With the available instruments we create a non-exhaustive mapping of world to mind, a translation. If my VR goggles are calibrated well, the virtual tables in front of me will feel sharp; if I move my kinetic sensor arms near it: confirmed, it is there. Poor little child, it will never know a world outside of the virtual machine—it lives

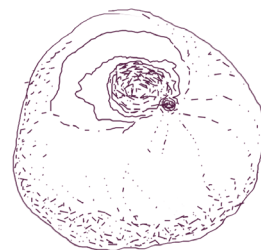
in a virtual world, we might say. But could the same not be said about our own form of mapmaking? A puny little attempt at describing the world through quantum fields and a misplaced belief in full access.



There is a certain childhood experience which is familiar to many people: a book full of colourful images lays out the structure of the universe. Solar systems with planet trajectories, large spiral galaxies at one end of the spectrum, and atomic nuclei around which electrons whizz on the other. How many will have thought proudly in this moment that something special was at hand? The child's mind discovers the possibility that immense galaxies could be mere atoms of a world much larger than we can even comprehend, and at the same time that our atoms contain vast worlds within themselves too. It feels good, not unlike a kind of religious participation in the joint endeavour of scientific discovery. But what a false promise this turns out to be! Isn't it something more than that we tend to recognise similar patterns in the world? Is it not also the internal self-similarity of the model-recognition hardware that is uncovered here? Elliptical planetary orbits and electron energy clouds

are similar because we focus on uncovering the same patterns repeatedly.

Again, it is an intellectual milestone for the young scientist when he or she learns to conceptually distinguish between the feat of exploration and the wonder of invention. Yet technologies that allow partial access to the world, already always technologies of exploration, must be invented before this world can be accessed. There first needs to be a tool that would allow the very possibility of differentiating the terra incognita. But this invention—the tool—is already here with us, always already accessible. Only risk is required, the necessary sacrifice involved in discovering it. The toolset used for model-making defines my own subject-position at the same time. The models through which I articulate the shape of Earth locate me within its diverse boundaries. On flat ground, I have an equal share in what happens above or below. In hyperbolic Earth, the sky is a tiny orb. The pale blue dot allows for many mistakes, as it shows how much more space there is for expansion. An infinite space for redemption. Latour's Critical Zone allows us to focus on a thin band of Earth human systems, where the main interfacing between Earth and its inhabitants takes place. Likavčan expands on the terrestrial—global model to develop the pantheon of comparative planetology. Among many diverse and compelling data-fields, the tiny fruit fly finds motivation to map the rotting orange and distinguishes squishy sugary seas from sulky hostile scarlet meadows.



The fly on the leaf on the tree over the dune can be referred to as many or as one, depending on the size of the viewer, the intention that encodes it into information. Is it a microbial infection or some other interest that causes the fly's brain to relate to the tree as something with parts like branches and leaves? Is there a tree-dune compound, a fly-leaf complex, or should it be a tree-dune-leaf-fly?

How important is it to cultivate a sensitivity for the most minute changes? For the faintest of sounds? The world is a whole. To exist in it is to make sense, to differentiate, to project parts into the one. How do we make sense of this world? I registered the change.

The first task is to give the most useful names to each individual part. I know this object: this is a stone. These stones will make up the hill I am building. They only consist of the parts which I have found useful to name. When others come after me, they might agree upon naming other parts unseen to me, with sensitivity as yet unimaginable to me. Making multiple cuts upon the fabric of the world is

not tantamount to relativism. It is simply the process of asking questions. What technology guides us? Who is our messenger? What is the name of this angel who brings us news from afar? It is Newton's idea of "immediate action through space". We can be touched from somewhere beyond the horizon of our immediate experience. A new sensibility enters the stage. A new resolution to test the world. I present my sensitivity, my differentiation from you, from my friends, from everyone. Or perhaps this is relativism, but not in the sense of the word that there is nothing to hold on to, that all things are random. But rather in the true sense of the term: that all differentiated grain exists relationally. They form a chain of mutual relation, and the larger these relation chains get, the greater of a foothold in the world they possess. Now we are faced with a new challenge: what are we to make of this reality? Are we capable of integrating it into our life? Can new and better stories arise from my narrative? Or does my story instead freeze motion and dull us? Do I become boring, such that no one can make use of my thoughts? The preciousness of new knowledge is not to be found in how fine its grain of differentiation is. It is rather in its integration potential: in how well a new sensibility can be integrated into what we already use.

The work, tiny, slow, and precise, often lies in connecting my cutting instruments to an integration framework. It does not matter what parts I am able, wanting, or needing to cut the world into. If I have no further use for this differentiation, if there is no framework to which my new data may be appended, it remains hollow. Hung-up, in mid-air, a lone factoid. The work of building knowledge often entails an

element of integration: interconnecting multiple levels of differentiation to prior attempts at differentiating the world.

The most well-integrated differentiating practices, those that form the dominant world narrative, are very often equated with reality. On the other hand, the practice of factoring in limits of access results in a somewhat more humble name for such a narrative: the dominant fiction of our age. As differentiation involves the individualistic use of the capacity of our shared instruments, integration is the work of the community, of collective sense-making. Hence, culture is given to us by balancing the fineness of differentiation and the general cooperation-value of integration.

The granularity of the one is converted into usefulness.

Strands of instrumental practices solidify into large floating blobs. Large solid blobs encounter and collide with each other. No medium allows for perfect translation. Where might we begin to find new strands of knowledge that could connect, intermediate? How might I begin to build instruments with enough community potential to allow more adequate forms of translation? Forms that allow for communication between parallel cultures. A large solid culture blob passes by. Then follows a young inward-looking string, striving for power. What should we begin our search for some new instrumental reality, one with high integrative potential?

My translation effort can only be successful if the inevitable lossiness is accounted for. I may be unable to clearly formulate what is inaccessible to me, but I may well be able to speculate through observing how other beings access the world. Partially. I may not know what is lost but still be aware that it could be substantial. I am ready to fail. The tiny fruit fly finds motivation to map the rotting orange and distinguishes squishy sugary seas from sulky hostile scarlet meadows. It is time to rejoin the others, a community of flies.

I can still remember very vividly the moment in which I read about the environmental consequences of the construction development in Demänovská Valley and its impact on the groundwater reservoirs. Under the valley lies what has recently been confirmed as the longest cave system in the Carpathians, the Demänovská cave system. Supposedly, traces of plastic materials, salt and gravel have been found in the waters of Demänovská—which flows through and forms this cave system—and consequently also in various caves within the system. This is all due to the burgeoning construction activity and increasing traffic in the valley driven by the growth of tourism.

For the first time, I became aware of the actual boundary and connection between the two parts of this valley: the one above and the one below. They're intrinsically connected, even though the majority of living organisms inhabit only the upper part. Underground systems act as filters, gradually receiving the remnants of materials that lie at surface level. Within these underground systems, surface fragments either settle or are carried by the flow of the river. The water channels create a network of both horizontal and vertical connections, spanning great distances between different points.

They serve as a conduit for the transport of matter and organisms. They excavate and build new spaces, the karst territory can be full of hidden chambers, corridors, and canals. The majority of our water resources can be found underground, distributed in a series of channels from which the water network of our human infrastructure likely draws inspiration.*

* Herich, P., 2021. Mikroplasty, soľ a štrk sa dostávajú do Demänovských jaskýň a do vody, ktorú pijeme, DenníkN. <https://dennikn.sk/2300085/jaskyniar-herich-mikroplasty-sol-a-strk-sa-dostavaju-do-demanovskych-jaskyn-a-do-vody-ktoru-pijeme/>.

Underground systems and cavities where water has ceased to flow also function as time capsules or archives. Like in the case of archives, here the temperature remains constant, as does the humidity and other environmental factors necessary for proper preservation. Not surprisingly, caves are almost perfect museum spaces, and have preserved some of the earliest works of art for hundreds of thousands of years.

Since 2018, I've been working on a series of moving image works that, starting from an investigation reflecting on the increasingly popular interest in Flat Earth theory, explore our relationship with—and perception of—the planet as a physical and celestial body. The renewed enthusiasm for Flat Earth theory marks the spread of extreme skepticism regarding the reliability of explanatory models for understanding our planet and its relationship to other celestial bodies in the solar system. Furthermore, a resurgence of the Flat Earth narrative can be seen as a consequence of changes to the ways in which information is distributed and received following the rapid growth of the Internet. On the other hand it can be linked to an evolution of our relationship with images and visual representation in general.

Constant visual monitoring of the Earth's terrain has in recent decades become the norm, both for military and civilian purposes. Consequently, we have grown accustomed to having maps and images of almost any conceivable location made available to us. Inevitably, we start to think about unmapped places, and indeed ones that cannot be mapped.

* Berlinger, J., 2023. The 'Gaza metro': The mysterious subterranean tunnel network used by Hamas, CNN. <https://edition.cnn.com/2023/10/28/middleeast/hamas-tunnels-gaza-intl/index.html>.

Spaces, especially beneath the surface, which are inaccessible to both drones and satellites, have become an even more valuable resource today, a point to which recent events in Gaza can also testify.*

The exploration of underground cavities, both artificial and natural, remains as the only form of uncharted exploration left on our planet. It is possible that we have only discovered a fragment of all existing underground systems on Earth. Therefore, an exploration of the subsoil, the hidden territory of our planet, might be compared to the idea of exploring the Earth's subconscious, since geological strata contain all memory of the evolution of our planet. Just as when we talk about exploring the subconscious, fantastic and almost fairytale elements gradually begin to emerge, at the same time bearing a clear link to reality.

In a famous illustration by Edouard Riou for Jules Verne's "Journey to the Center of the Earth," first published in 1864, a cave of giant crystals is depicted, one of the series of wonders that the group of explorers encounter during their journey into the planet's interior. Almost 130 years later, Naica Crystal Cave in Mexico was discovered, a cave with selenite crystals located 300 meters underground, with the largest crystal measuring 11 meters in length. The Mexican cave developed over hundreds of thousands of years, thanks to particular geological coincidences caused by volcanic activity in the area. The similarity between the 19th century illustration of Jules Verne's novel and the photographs taken in Naica

is striking. The subconscious and the unconscious, which have always fueled cultural production, sometimes articulate the world's hidden aspects even before the actual discoveries have been made.

“The subsoil is often also the quintessential negative space of our upper world.

All cities are additions to a landscape that require subtraction from elsewhere. Much of Paris was built from its own underland, hewn block by block from the bedrock and hauled up for dressing and placing. Underground stone-quarrying began in earnest towards the end of the twelfth century, and Parisian limestone grew in demand not just locally but across France. Lutetian limestone built parts of Notre-Dame and the Louvre; shipped on Seine barges into the river network, it became a major regional export.

The residue of over 600 years of quarrying is that beneath the south of the upper city exists its negative image: a network of more than 200 miles of galleries, rooms and chambers, organized into three main regions that together spread beneath nine arrondissements. This network is the *vides de carrières*—the ‘quarry voids’, the catacombs.”*

* Underland:
A Deep Time
Journey; Robert
Macfarlane, 2019,
Hamish Hamilton

Journey to the Center of the Earth is certainly not the only story which depicts a descent into and ascent from the Earth's depths. Its uniqueness lies in its ability to actually connect two very specific and distant geographical points through a fantastic shortcut. It's a journey through our planet, now bereft of

uncharted territory, apart from the inner space still to be explored and colonized.

Journey to the Center of the Earth is also a tale that foreshadows various future technologies, both in the realm of telecommunications and rapid transportation. During the 20th century, it was precisely these same space-time shortcuts that transformed our perception of the planet, rendering it smaller and even as an image of itself, as it is in the minds of those who believe in the Flat Earth thesis. The transition from image to the absence of representation is a challenge of collective imagination that awaits us if we are to begin imagining Earth as a body composed of various layers of both organic and inorganic life, in a state of continuous evolution and becoming.

Just as it was in the beginning of human evolution, caves may yet play a fundamental role in its future. Due to the dangers of radiation, the lack of atmosphere and significant temperature fluctuations, cave systems formed by former lava tubes on the Moon, as well as on Mars, may be the first places capable of providing shelter for a human settlement. These volcanic caverns are also intriguing as a site of potential exploration for traces of life on other planets, since cave systems serve as reservoirs and archives of living organisms.

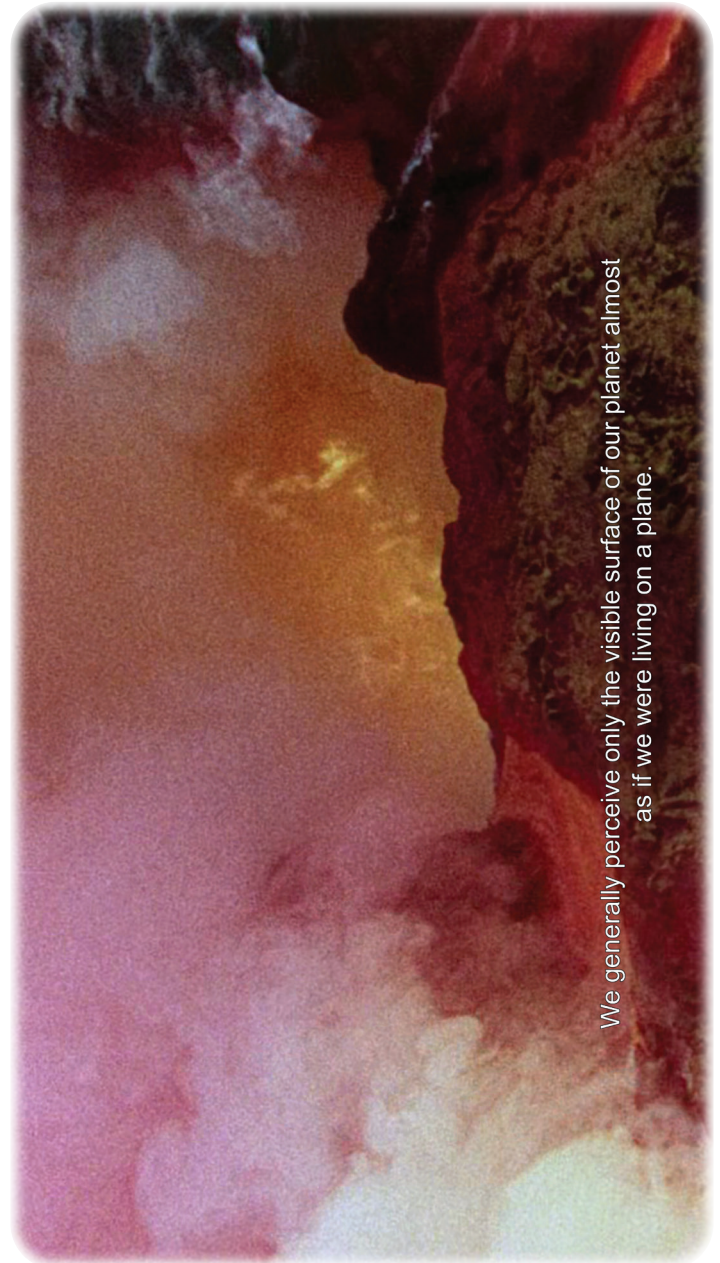
The real question here is why, apart from unrelenting human curiosity, we should want to seek traces of life beyond Earth. Organisms that have been found in various underground cave systems recently discovered on Earth evolved and developed within

* Abromeit, L., 2016. Deep in an ancient cave ... an unexpected form of life, Ideas TED. <https://ideas.ted.com/deep-in-an-ancient-cave-an-unexpected-form-of-life/>.

these closed systems for hundreds of thousands of years without any direct contact with the outside world. There can therefore be no doubt that true alien beings already exist on our own planet.*

Together with organisms evolved in other extreme conditions on Earth, these species help scientists to better understand how life could develop under different planetary conditions such as those on Mars.

Thus, if life on Earth can provide an example of what extraterrestrial life in other places might look like, perhaps the real challenge here is to start considering our own planet as merely one part of a larger ecosystem: our solar ecosystem. Such a system could be described as one wherein life travels and develops under different conditions such as those which once took place on Earth. To aid our imagination, it could be interesting to dissolve the distinction between extra and intra-terrestrial, since we understand matter and life as interdependent in our solar system, just as it is on a smaller scale in our own planetary ecosystem. Hopefully, we will one day be capable of perceiving our planet as a whole body, treating its hidden parts with the same importance as the visible ones we currently inhabit.



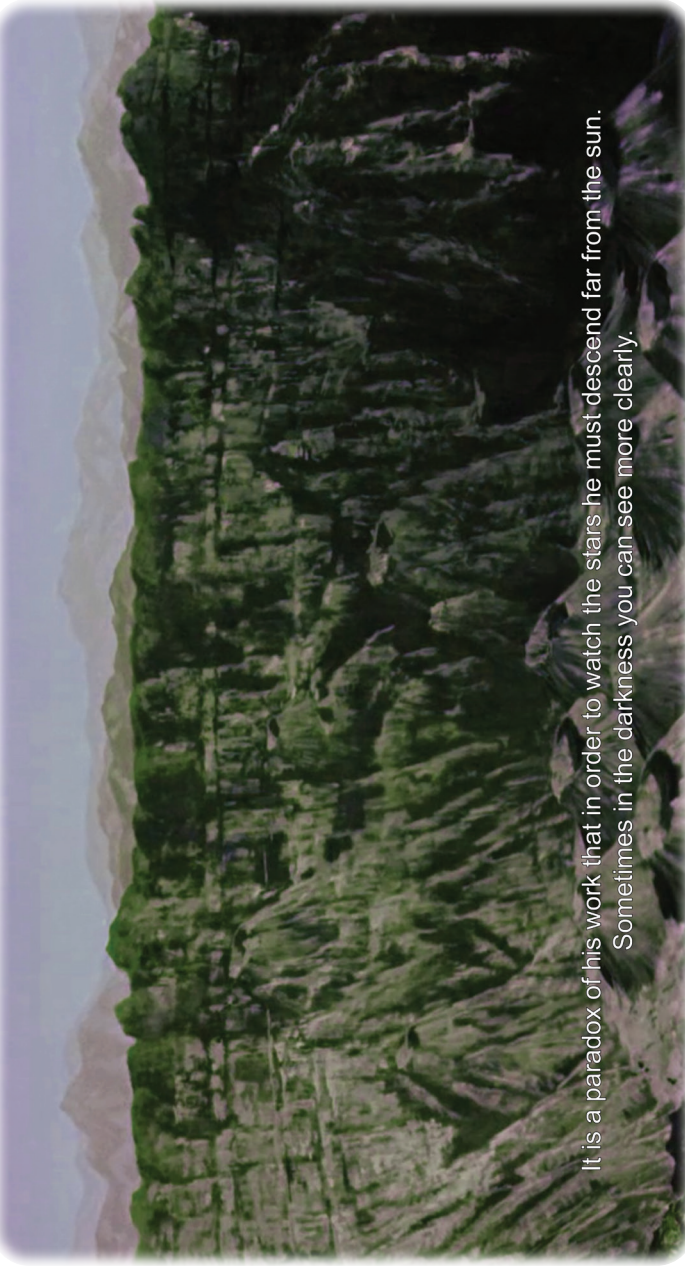
We generally perceive only the visible surface of our planet almost as if we were living on a plane.



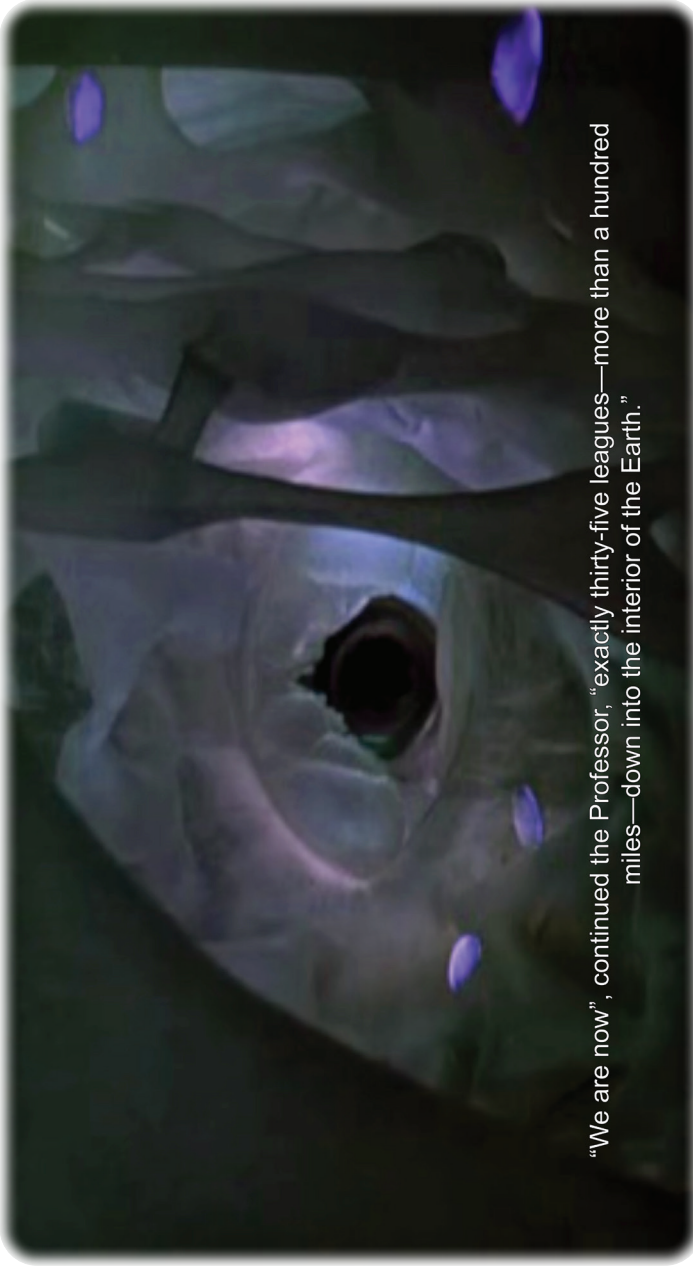
Most likely we're living on a sphere filled with holes, cavities, connections and networks that entwine the surface with the underground world.



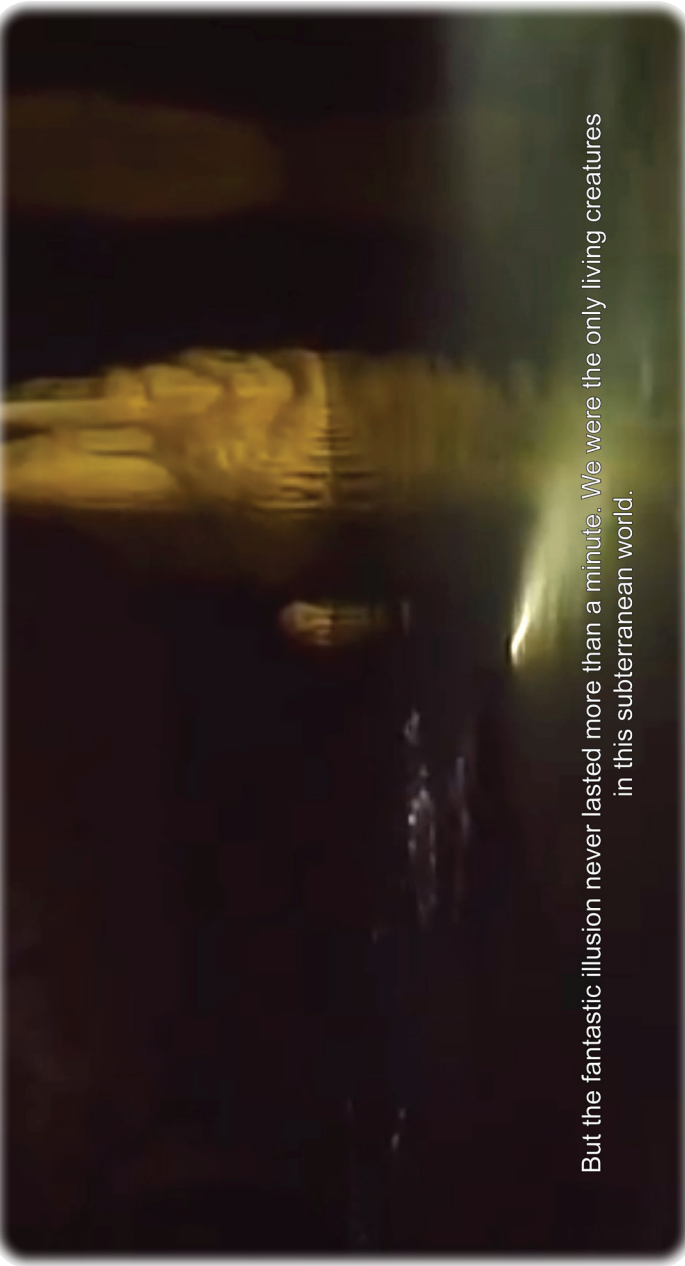
"Paris has another Paris under herself", wrote Victor Hugo in *Les Misérables*, "which has its streets, its intersections, its squares, its dead ends, its arteries and its circulation."³⁷



It is a paradox of his work that in order to watch the stars he must descend far from the sun.
Sometimes in the darkness you can see more clearly.



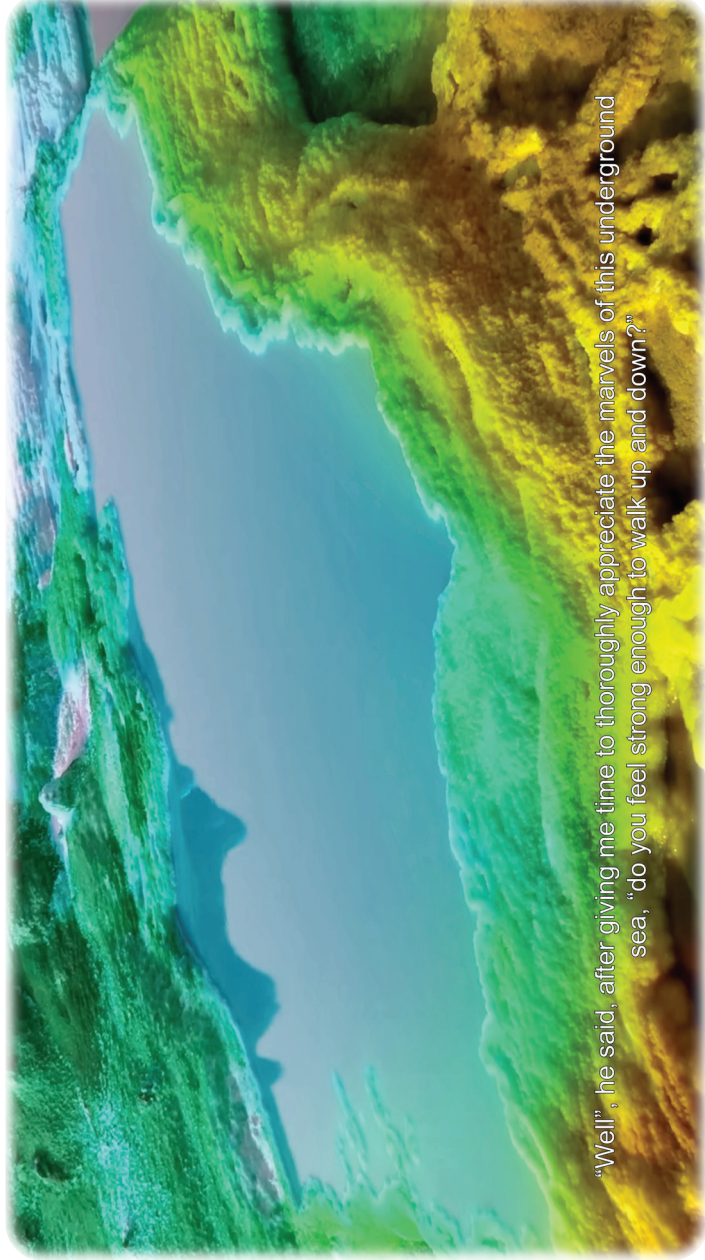
"We are now", continued the Professor, "exactly thirty-five leagues—more than a hundred miles—down into the interior of the Earth."



But the fantastic illusion never lasted more than a minute. We were the only living creatures in this subterranean world.



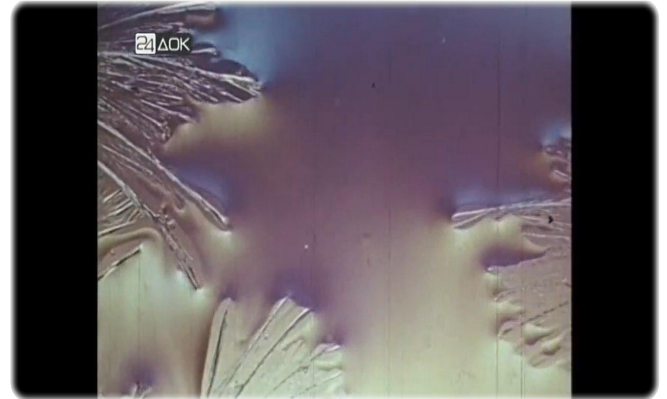
The newspaper that morning reports that geologists have discovered buried seas of water in the Earth's mantle.



"Well", he said, after giving me time to thoroughly appreciate the marvels of this underground sea, "do you feel strong enough to walk up and down?"



Boston had seen crystals in caves before, but never like the ones in Naica. To picture it, imagine Superman's Fortress of Solitude.



Film still from *Biosphere! Time to Apprehend* (dir. Felix Sobolev, 1974, Kyiv Studio of Popular Science Film). Department of Archival Funds, Dovzhenko-Centre.

What are truth, certainty and evidence, if not traces of the intricate games of power, desire and coherence? The biosphere reserves in Belarus that emerged after the accident at the Chornobyl Nuclear Power Plant (created almost immediately after the accident– in 1988) and more recently in Ukraine (2017) are among the richest green zones in Europe. Surprisingly, despite the dire consequences the accident has had for both animal and human life, effects of which are still unfolding as we speak, the organic wealth that exists in the exclusion zone today can only be accounted for as a result of this very same catastrophe. The Chornobyl nuclear power plant explosion has served as one of the most popular environmentalist propaganda images testifying to humankind's destruction of the environment. Despite this, the ecosystem around the nuclear power plant can exemplify the type of green idyll which today is so often touted by the eco-activists of large international NGOs.

The Zwentendorf nuclear power plant, the first and only nuclear plant in Austria, illustrates a different case. The plant was never put into operation. The strength of a growing anti-nuclear movement in the 1970s resulted in a referendum on the feasibility of nuclear power plants in 1978. With a small margin of 30 thousand votes, it was decided not to open the station.* Despite the jubilation of the Greens, in 1987 a thermal power plant was soon built near the Zwentendorf site, and its electrical lines were connected to the tracks of the unopened nuclear plant. Whilst there is not enough evidence to say conclusively that this pollution is entirely due to the thermal plant, the important point here is that a paranoid obsession with the negative effects of one specific form of pollution is not only in this case misplaced, but also obscures the often more devastating consequences of pollution by more conventional methods of energy production.

What do these two cases mean for “ecology” as a concept and environmental policy? Are there ways of thinking about the environment and ecological praxis that face up to these kinds of paradoxes, rather than ignoring them? After all, it seems that we are dealing with a ripped seam of truth, a kind of breakdown of the certain, a collapse of the obvious. “Ecology” can be etymologically traced back to the Greek word *oikos*, that is, “house”. As British cultural critic Raymond Williams notes in his *Keywords*, in modern-era

* Referenda and Nuclear Power Plants – A Historical Overview. Greenpeace, 2011. <https://web.archive.org/web/20110928224800/http://archive.greenpeace.org/comms/no.nukes/react02b.html>.

Anglophone science, “ecology” referred to the biological environment of cohabiting organisms, while the socially-mediated human environment was usually called “economy”, or a kind of *commanded* ecology. The polemics of Lamarckists and Darwinists in the 19th century led to the establishment of the concept of “environment” for discussions about the biological environment, while “ecology” was almost forgotten until the 1950s, when it was finally revived by eco-activists. Williams himself had expected that this revival would lead to a renewal and rethinking of the concept of economy within the green agenda, since the impact of social relations on the environment had only increased.*

* Williams, R., 1983. *Keywords: A Vocabulary of Culture and Society*. Oxford University Press, pp. 110–111.

This paradox that emerges from the geological history of nuclear power reveals the cognitive operations of a violent domestication of the environment (which can be seen both in the case of Zwentendorf’s plant and in the notion of “economy”), operations which both objectify it and render it seemingly predictable (a predictability euphemistically referred to as “harmony” by green NGO’s). But is it possible to imagine a caring and hospitable environment beyond this imaginary of domestication?

I will discuss what seem to me to be the three most promising figures for thinking through an alternative environmental policy: the ontological vibration, the posthumanist socially-engaged critique of blooming-in, and the

politics of resonances. These figures will allow us to think about some of the new modes of experimental theoretical, artistic, and ecological practices that are currently emerging in ex-Soviet contexts.

Vibration

It seems to me that this shift from “oikos” to “eco” that took place in Western Modernity is not at all accidental. In contrast to the oikos-house, “eco” more and more often communicates a meaning closer to “milieu”, and some kind of nonlinear connectivity. Perhaps this shift—which to a large extent, as Williams points out, took shape in the 1960s—is among the effects of the crisis of modernity, one provoked not least by the ecological consequences of a pro-extractive, colonial discourse about “man” as a subject—who alone, but with the heroic pathos of the benevolent, kindly holds the Universe in opposition to existing natural phenomena, iteratively reproducing the natural laws.

It is worth investigating whether possible solutions to this crisis of Modernity can be found in the marginal (and marginalized) lines of thought within it. One of the main opponents of Descartes, the dissident philosopher Benedict Spinoza, introduced a distinction between two natures in his magnum opus *Ethics*: *natura naturans* and *natura naturata*. The latter refers to a kind of generated or “presented” nature. This is the nature of “solidified” expressions of processes, nature as

a self-creating God. This “God” is not understood by Spinoza to mean a personified transcendental manager of the world, but—leaving out some of the important details here—simply everything in its highest degree of complexity. *Natura naturans* is a generative nature. This is not nature as

* Spinoza, B.,
1677. *Ethics*.
Theorem 29.

a source, but rather as a process, an unfolding “cause-effect”.*

As Varvara Polovtseva—one of the most scrupulous researchers of Spinoza’s philosophy of the early twentieth century, who began her scientific career as a botanist—aptly notes, *natura* in Spinoza’s sense means nothing like the idea of “nature” which is often opposed to culture. *Natura* is often used by Spinoza as a synonym for “*essentia*”, or essence. *Natura* is not meant in the same sense as that of the natural sciences, but accounts for the most important element of Spinozian ontology.* Another Spinozist, the French philosopher Gilles Deleuze, argued in the late 1970s that what Spinoza calls “essence” is not the transcendental or most primordial and important secret of a thing (as in expressions like “the essence of man”), but rather should be taken to mean “*a singular determination*”. This denotes the “never-to-be-repeated” essence of an expression that arises just once, but then immediately moves further along the uneven trajectory of its own mutation. “*There is the essence of this and that, but the essence of man does not exist.*”*

* Polovtseva, V., 1913. On the Methodology of Studying Philosophy of Spinoza. (In Russian), *Voprosy Filosofii i Psichologii*, 118 (III), pp. 380–381.

* Polovtseva, V., 1913. On the Methodology of Studying Philosophy of Spinoza. (In Russian), Voprosy Filosofii i Psichologii, 118 (III), pp. 380–381.

Natura as a singular determination can also clarify a lot about trees, algae, and bacterias, because in this view they are not pure representations of natural law, but are entirely singular, dancing, transient and unstable—no more and no less primordial or primitive than, say, a certain kind of factory or computer algorithm.

This line is also followed by the early Soviet thinker, and one of the main philosophical opponents of Lenin, Alexander Bogdanov. Unlike many of his contemporaries, Bogdanov was convinced that the original terms used by Spinoza had significantly changed in meaning since the time of the 17th century. Therefore, translating “substance” into “matter”, along with everything else that Lenin and Plekhanov tried to do with Spinoza’s philosophy was “simply ridiculous” to Bogdanov. The opposition of matter and idea is alien to Spinoza because: “[for] at least the majority of mental phenomena, namely the images of things, that is, therefore, representations and perceptions, Spinoza refers to the attribute of extension, saying that they arise from a collision, from the interaction of bodies... He recognizes modes of thinking only as affirmation or denial of something. Bodies and images for Spinoza are the world of extension; that is, they include all experience, all empiricism in the exact meaning of the word. Consequently, the parallelism of the attributes of thinking and extension is ideo-empirical parallelism”.*

* Bogdanov, A., 2010. The Fall of Great Fetichism. (In Russian). KRASAND, p. 204.

According to Bogdanov, the experience that arises in this process is transpersonal (socially

organized), and interactive (that is: it arises in practice, from the interaction of “subject” and “object”, if this opposition is still applicable here). Experience is not an interior mental state (a “film” on the screen of mind), but what unfolds through the process, *the experience of a relationship*.*

* Bogdanov, A., 2003. Empiricismism. (In Russian). Republic publishing, pp. 235–236.

The flip-side to the striking singularity of experience (after all, the experience is not even *mine*), is its somehow even frustrating plurality, its reciprocity.

Spinoza’s and Bogdanov’s naturalism rejects the holistic vision of the universe as a single coordinated organization of the elements, endowing everything that exists with instability and transience. Spinoza’s nature, like Bogdanov’s concept of experience, is not just knowledge from pre-modernity. Nature and experience can serve as ontological and epistemological tools for producing critical theoretical experiments.

Blooming-in

The plant in bloom presents its readiness for pollination to the environment, which triggers a chain of subsequent informational-metabolic processes. Is the flower then an authentic element of the plant? Is blooming authentic, or is it just a *representation* of some more authentic “self” of the plant? These questions might seem ridiculous, but isn’t the flower just a signaling image addressed to insects? An insect, of course, does not call a flower a flower: the modal difference “flower/insect” is only possible within the experience of a human being interacting with

them (these modal differences are given by the interaction itself). At the same time, for a human being a flower can also be a signal, let's say, for the arrival of spring or something else.

The flower literally *blooms-in* its milieu by launching a network of exchanges between itself and the environment. This mutual communication is built on relations, not on mythologies of authenticity. This account illustrates a much more complex picture than the idyllic images of a "harmonious" nature. The flower in bloom is multilevel and disharmonious, and therefore has nothing in common with the totality of the universe as an organism. As soon as one notices the blooming-in process, it can quickly lead to confusion and even frustration, since one no longer knows where "I" and "my" intentions end and the environment begins. Uncertainty instantly clouds a person's thoughts about blooming-in.

At the beginning of the twentieth century, around the same time that Ferdinand de Saussure had been expounding in Geneva the theory of linear interhuman communication as part of his course in general linguistics, *Umwelt und Innenwelt der Tiere* (1909) (literally—"The surrounding and inner worlds of the animals"), a book by the biologist and semiologist Jacob von Uexküll, was published in Berlin. In this book, Uexküll introduces his concept of "Umwelt", a concept which can be thought of as something like a habitat formed by the signals and perceptual data that surround the individual organism. The

Umwelt is simultaneously outside and inside the organism. It is manifest in mutations provoked by the mutual influence of the environment and the organism. Evolution, therefore, is an extremely nonlinear phenomenon, because the organism is always iteratively adapting to the environment, which also changes due to mutations in the organism through a kind of sensitive biochemical membrane. As a result, the organism is endlessly adapting to the ever-changing environment and vice versa. This exchange of data pushes the organism and the environment towards a mutually symbiotic becoming. As a result, the boundary between externality and internality is dissolved in this multichannel communication.* Inspired by

* Uexküll, J. von, 1909. *Umwelt und Innenwelt der Tiere*. Berlin: J. Springer, pp. 4-10.

* Maturana, H.R. & Varela, F. J., 1972. *Autopoiesis and Cognition: The Realization of the Living*. London: Reidel Publishing Company, pp. 73-76.

the work of the Chilean cyberneticians, Humberto Maturana and Francesco Varela, one could define blooming-in as a communication-related link in the *autopoiesis* of living systems, which is a kind of multilayer membrane of living processes, permeated by the recursive connections of each of its elements with the environment, endlessly iterating each other.*

Anthropologist, psychologist, and author of *Steps to the Ecology of Mind*, Gregory Bateson, had high hopes for what he calls "recursive epistemology". In contrast to Cartesian linear models, which focus on the one-sided influence of the subject on a passive set of objects, recursive epistemology examines the similarities and patterns within the functioning of nonlinear

systems.* Combining Bateson's ideas with Franz Fanon's concept of the "*sociogenic principle*",

* See Harries-Jones, P., 1995. *A Recursive Vision: Ecological Understanding and Gregory Bateson*. Toronto: University of Toronto Press.

critical researcher Sylvia Wynter describes the idea of the isolation and elevation of (hu)man as one that is materialized through extractive practices as a cultural-historical assemblage in the

system of sociopolitical relations. Through symbolic differences (between humans and non-humans, women and men, etc.) as well as cosmologies of human origin, Western culture establishes itself with hierarchies, all categorized according to gender, race, social position, species, and other parameters. The racialization of the world and differentiation of Man and the environment as "generally equivalent" are not just illusions, but beliefs materialized in institutionally mediated social practices. The modern extractive planetary regime

* Wynter, S., 2015. *The Ceremony Found: Towards the Autopoietic Turn/Overturn, its Autonomy of Human Agency & Extraterritoriality of (Self-)Cognition*, in: Ambrose, J. R. & Broeck, S. (Eds.), *Black Knowledges/Black Struggles: Essays in Critical Epistemology*. Liverpool: Liverpool University Press, pp. 22-227, p. 243.

strengthens itself by epistemological means: philosophical and scientific unification of the diversity of practiced cosmoeses with the subsequent integration of this unifying knowledge into the work of *auto-institutions*. Such institutions totalize a world of domination by the white sovereign cis-male body, although this body itself is structured as an autopoietic system.*

The French author Felix Guattari came to a similar position through his own research and psychoanalytic practice. In his opinion, the mental processes of both individuals and collectives can also be described as self-referential autopoietic

systems. Individualized subjectivities arise on historically, symbolically, geologically, economically, and multiple other "*existential territories*", which are conditioned, relatively stable affective fields of subjectivity that produce the form and content of existence, as well as our relationship to the body, life, and death.* The existential territories that form the universe of reference are regulated and controlled by the dominant regimes of sociopolitical relations, or, as one might

* Guattari, F., 2008. *The three ecologies*. (I. Pindar & P. Sutton, Trans.). London: Continuum. pp. 33-34.

argue with reference to Wynter, by the *auto-institutioning* of the dominant culture.

Thus, biological life, knowledge, and mental processes are intertwined areas of what is presently happening, what has managed to maintain dominance and profit through material infrastructures, the epistemological unification and global sporadic regulation of mental states through marketing, and information technology and psychotherapeutic psychiatric practices. The three areas of social praxis that work at the intersections of these three registers of action are activism, art, and theory, which are the blooming-in of explosive potentialities for inventing sociopolitical and cosmological alternatives.

Resonances

There is a small forest very close to the apartment I am currently renting. The forest is situated on a landslide, that is, on extremely unstable soil. The geological unsuitability of this place for

urban development has for a long time provided space for greenery on the hills close to the central part of Kyiv. For me, these hills have become a place for regular walks, occasional video conferences, and casual reading. And yet, despite its limitless attractiveness, this place is also often used by the residents of the district as a site for discarding waste. Most notably, large-sized waste, which would otherwise be costly to dispose of at a landfill, is often dumped here. Some areas are completely impassable without trampling through trash. Despite this, the rubbish does not prevent anyone from enjoying walks here, and at the same time serves as a home for many insects, fungi and larvae. At some point, I began to worry about the less positive consequences for the ecosystem, hence, the Chornobyl-Zwentendorf conundrum made the situation far more ambivalent. I'm not even sure if the consequences of moving garbage from one part of the city to another are generally noticeable. Doesn't this merely present itself as a false solution to a false problem?

The experiments of Pauline Oliveros, one of the most interesting representatives of early unconventional electronic music and a queer activist, point to a horizon beyond these false problems. Combining research with electronic music and her own feminist approach, the composer explores the sound density of space and the possibilities of its auditory touch, which has led to the development of her well-known sonic-meditative technique of "deep listening".* Among other things, Oliveros was interested in resonance

* Oliveros, P. & Maus, F., 1994. A Conversation about Feminism and Music, *Perspectives of New Music*, 32(2), pp. 174–193.

as a kind of sound-glue for the environment, which led her to produce records in caves, churches, and huge cisterns. The resonance in her music provokes a quiet ecstasy that demands patient listening. Another property of this musical resonance, or more precisely, of listening to it, is its presence in the performatively unfolded sound milieu, the boundaries of which dissipate in physical space. Oliveros works with the sound ecology of resonances and the listener's partial inclusion in them. To me this seems to offer a radical alternative to the ecology of an integral and unified planet, the assembly of which the politics of "harmony" are engaged in. Resonance is a *network of scattering, unstable multiple experimental connections* as opposed to a unifying harmony. It would seem therefore useful to imagine resonance politics as an alternative mode of politics of the environment. This imagining is both constituted by the actual tendencies of art, knowledge, and politics, and is preoccupied with potential forms of coexistence between Earth's many creatures.

Resonance politics reject the binary opposition of technogenic/organic, as well as the disciplinary distinction between poetics/politics/cognition, whilst striving to dismantle them in practice. We've had the opportunity to see, thanks to the works of Gregory Bateson, Sylvia Wynter and, Felix Guattari, how technogenic and organic, just as the three above mentioned types of practice, are intertwined in autopoiesis, constantly and fundamentally challenging the motley field

of political-epistemic-aesthetic production. In order to provide my own version of how this interdisciplinary type of resonance practice could work, joined with the environment of techno-organic experiments without—and even in spite of—a more holistic and complex picture, I will turn to Alexander Bogdanov and his political philosophy of art (a perspective which can also be extrapolated to activism and knowledge production), Irina Aristarkhova and her concept of *hospitality*, and the concept of *intimate interfaces* proposed by Yozhi Stolet and Lika Kareva.

Polemicizing against an opinion that was widespread amongst Russian-speaking Marxists of his time, Bogdanov denies the reduction of the purpose of art to an adornment of bourgeois life. Art production, according to Bogdanov, is in no sense an idle pastime that distracts the proletariat from the revolution, but rather “a tool of social organization”. Art organizes experience, the fuse which lights the processes of mutuality.*

Art invents modes to express the interpersonal and more general recursive communication that one experiences in relation to their environment. Artistic work recreates the singular experience of interaction as a common social experience.

Bogdanov recreates a well-known realistic program for art, which should, according to this program, reflect social relations. Why? In my opinion, the answer should be sought in the author’s work itself. As a writer, Bogdanov wrote

* Bogdanov, A., 1990. *Art and Working Class*, in *On Socialism: Collection of Works*. (In Russian). Moscow: Politizdat, p. 421.

science fiction novels about aliens (*Red Star* and *Engineer Menni*), which contrast significantly with popular realist art. I consider it appropriate to speak of Bogdanov’s aesthetic program as the realism of artificiality (both possible to realize and forthcoming): realism as realization. According to this model an artificially reconfigured social experience is a condition for the transformation of the action in which experience arises. But such a readjustment requires, oddly enough, both plausibility (like any artificiality, this is its “realism”) and potentiality, installed in the field of social practices as an artificial formation. In view of recently discussed ontologies of vibrations and the sociology of blooming-in, it should be recognized that the realism of artificiality is the only possible realism, because in the world of “disposable” entities and nonlinear recursive connections, reflection as an intangible theater in the observer’s head is impossible. Any reflection is a fake, and this is fraught with promising political prospects!

A co-founder of the self-organized Cyberfeminclub that operated in St. Petersburg in the 1990s, Irina Aristarkhova developed her own philosophy of artificiality based on her concept of *hospitality*. Observing the history of the concept of matrix, the author de-essentializes hospitality as a supposedly default feature of the female body. Aristarkhova draws attention to the variety of ways in which alliances of human and non-human agents practice hospitality associated with pregnancy (for example, in ectogenous technology and nursing). Thus the philosopher redefines

hospitality as “practices that enable the matrixial/maternal to become a foundational aspect in development and generation”.^{*} Elsewhere, she writes: “Hospitality is not connected in some pre-determined, biological, ‘unconscious’ way. I choose to acknowledge them or connect them based on concrete acts of hospitality”.^{*} For example, in the case of maternal labor, hospitality is much more than *just* bearing the fetus; it is also creating necessary conditions for its development. It seems to me that the experimental development of hospitality practices through agency distributed between persons and non-persons (at aesthetic, ethical, political, libidinal, infrastructural levels) is the kind of activity that resonance politics are guided by, because it is precisely the installation of conditions for living together, not a reproduction of a “natural” (normative) state of the Earth as harmony politics tend to emphasize.

Another concept that can help us to understand artificial practices of hospitality is that of *intimate interfaces*, proposed by Russian-speaking cyberfemenists Yozhi Stolet and Lika Kareva. An intimate interface is a device for facilitating hospitable acts. In their own words: “Intimate Interfaces constitute the edge between the external and the internal, on which there is a micro-effort of interaction, the minimality of influence of which makes it possible to act (as opposed to the impossibility of super-effort), as well as to track and redistribute rationality [...] Intimate interfaces are connections between individuals,

things, technologies, animals, and so on, which allow them to open up in a particularly intimate way (outside of subject-object relations).”^{*}

^{*} Kareva, L. & Stolet, Y., 2018. Cyberfeminism: Bodies, Networks, Interfaces. (In Russian), Art Magazine 105, pp. 33-39.

Theory through knowledge integrated into practices, art through working on interfaces that articulate experience, activism through the invention of new forms of communality, and practices where these intersect all have the potential to develop and install intimate interfaces for blooming-in based on solidarity and cooperation rather than on domination.

To give an example of what I mean by such practices, consider Oksana Kazmina’s film *It’s Cool to Imagine* (2014), in which the author invents a kind of non-genital-centered sexuality through cooperation with camera and environmental textures. This filmic practice shows how micropolitics can queer not only gender, but also how such a micropolitical perspective queers the nature of our attitudes towards the non-human and the very content of what we understand by the practice of “film”. In the case of Kazmina’s work, the film is defined as a not-only-human collective sexual practice. In a similar vein, the artist, researcher and activist from Kyiv, Anna Kravets, initiated an art action entitled: *What Does an Oak Want?* (2020) in which participants were invited to collect the acorns of perennial trees in order to raise questions about and discuss issues specific to oaks. What can we say about the subjectivity of an oak in relation to the participant’s perception? What does it want? Can it even want? And, finally, what

kind of collective subjectivity or (comm)unity is born from acorns scattered by a tree *and* a group of human beings? The participants suggested that either the acorns should be planted or something else could be done with them; no less important is the practice of developing a transspecific alternative to the neoliberal rhythm of common time, an act which significantly enriches the mental lives of those involved. Thus, despite the rejection of harmony, the politics of resonance remain sensitive to the sphere of the mental, but do so by cultivating autonomous subjectivities (individual or collective) capable of reassembling the *style* of their own existential territories, rather than by focusing on certain normative indicators of “harmonious” mental life.

Another example of resonance politics takes place in the summer of 2020, in Bashkiria where local residents defended the Kushtau mountain. Kushtau is one of the Shikhans: formations of the unique coral reefs that formed at the bottom of the Perm Sea more than 230 million years ago. As a result of many long and difficult protests, the activists managed not only to save it from redevelopment, doing so even in the face of Putinist Russia’s brutal police violence, but also created a local precedent of solidarity within a community of more than just humans. In fact, almost all activism and politicized art, as Felix Guattari aptly puts it, is transversal. It is resonance politics which cultivates this very transversality.

Cultivating transversal and transmachinic-transorganic communities is especially important for resonance politics. In the film *Similar Image* (2021), the art group Fantastic Little Splash, from Dnipro in Ukraine, uses rhythmic editing, animated inserts, and sound-work to diagram a set of relations: from the Dnipro River to the Dnipro power plant, from plant to substation, from substation to personal computer. Soon, however, the screen and vibrating audio sequence explode, creating confusion with flickering images of a dense, rubble-filled magical forest expanding, absorbing shops and household appliances, and appearing in satellite footage. This techno-bio-dense magical forest filled with, among other things, garbage—this is the image of the living milieu, which is far more truthful than the objectified idyllic vision of authentic nature.

It is worth mentioning here that the margins of Soviet culture and its dissident drafts of environmental politics are also quite fruitful. The above mentioned techno-bio-denseness was of great interest to the Soviet naturalist Vladimir Vernadsky. Referencing the ideas of the most important naturalist thinkers of his time, as well as his own observations of the devastating consequences of World War II for the Earth, Vernadsky argued that human history must be thought of as part of geological history. Humans as a part of the living substance participate actively in the (re)creation of the planet. Proceeding from this Vernadsky outlines a trajectory of geological history as an alternative to catastrophe and calls it

“the movement to the noosphere”.^{*} A strong and historically justified anti-war humanism pushes Vernadsky to excessive expectations in relation to science: he relies on a unified and integral management of the planet on scientific grounds. The most problematic theses of Vernadsky’s books were pushed

to their limits by James Lovelock, whose Gaia hypothesis—an absurdity marked by Western nostalgia for totality—puts forward his vision of the Earth as a harmonious single organism.

Lovelock’s hypothesis is essentially a newly objectified female figure, only this time not as an innocent girl, but a wizened mother.^{*} I would argue here that there is a better way to engage with

Vernadsky’s theory: to multiply the noosphere by a diversity of situated knowledges, and to continue challenging our ways of thinking about them in noogeodic terms—that is—as an extremely complicated set of practices.

By focusing on the register of practices rather than on prescriptions of “how it should be”, Alexander Bogdanov also writes about techno-bio-denseness. In the production process the distinction between nature and culture is blurred, so Bogdanov proposes to create a unified organi-

zational theory of “chain communication” systems—tektology—whereby nature, society, and technology can all be described within a single lexicon.^{*}

^{*} See Bogdanov, A., 1984. *Essays in Tektology: the General Science of Organization*. Seaside: Intersystems Publication.

^{*} Vernadsky, V., 1993. *Passages on Noosphere*. In Semionova, S. & Gachiova, A. (Eds.), *Russian Cosmism: the Anthology* (In Russian). Pedagogika-Press, pp. 303–305, pp. 310–312.

^{*} Lovelock, J., 1995. *The Ages of Gaia: A Biography of Our Living Earth* (Commonwealth Fund Book Program), (REV & EXPANDED ed.). W. W. Norton & Company.

This means, among other things, the necessary development of a greater openness in harmony politics, which tend to work much better at the level of public discourse, whilst also creating conditions for the dissemination of resonance practices, which in any case never purport to be the only valid type of ecological struggle. Instead of lamenting endless problems and impotence, resonance politics are permeated with gleeful enthusiasm towards the transformation of the field of political production, which now begins to look more and more like a spider web, one where power works at macro, meso, and micro levels. After all, although the production of the new world now requires a great effort in all places and simultaneously, this new diversity of modes of political agency provides enough potentialities for joy and enthusiasm.

This essay is inspired by authors participation in the SAMBATAS STAGINGS (Kyiv, Ukraine, 2021), an experimental performative project that drew on the imagery of urban ruin to find new ways of using the public space in times of social distancing, which were curated by RED FOREST (Mijke van der Drift, Diana McCarty, David Muñoz Alcántara, Oleksiy Radynskiy). Special thanks to Diana McCarty for the generous suggestions and caring edits.

András Cséfalvay:

Let me start with an easier question: for a child, the discovery of *invention* as something opposed to *exploration* amounts to something of a milestone. The unfamiliar is uncovered with much planning and risk when we explore the world, but invention can create novelty, almost from nothing. Are we discovering or inventing the planet? Or are, as I suspect, these ideas a lot more interdependent?

Lukáš Likavčan:

Yes, they are interdependent for sure. First—addressing the discovery part—“the planet” is something which hasn’t always been obvious to humans. When it comes to the history of Western colonial modernity, it was conceptualized first as a world, and then as some kind of global perspective, embedded in the cartographic gesture of the world map, i.e. through the integration of different parts of the world into the machinery of capitalism. So, it was a discovery in the sense that it was first used as a site for the making of a certain system, which could then look back at the planet and see this planet in its totality. That means, mainly, a system capable of building infrastructures that view the Earth as a unit from the ground or from above, which brings us to ideas related to visualization of the Earth, namely satellite imagery. That would be one lineage of the discovery of the planet.

Another lineage which I would say is more critical and oriented towards some philosophical projects that I feel more aligned with is a discovery of the planet as a scientific object, especially from perspectives of geology, of astronomy, of geophysics, and

of other important sciences that in Western modernity were fleshed out as independent disciplines during the 18th–19th centuries. Later, the perspectives of cybernetics and ecology (geosciences) consolidated this discovery of the planet as a physical object. These days, I am mostly interested in what astronomy brings into this equation: a cosmic perspective on the planet that sees it as something non-unique. In the case of Earth, we can say that in a certain sense it discovers itself through the medium of humans as a particular species, with the capacity to observe and reflect. That's a contentious idea to some extent, because it's most probably the orchestration of the infrastructures, individuals, collectives, and different biological species interacting that creates this armature of a planet perceiving itself. In this sense, humans have always been in the process of discovering the planet, and we can narrate this as a certain version of what we call global history.

Yet, I would also prefer to seek an escape route from this global imaginary. Seeing the planet as an astronomical object brings some hope, it offers us some possibility of looking at the planet as something that is yet to be adequately conceptualized. As a site of human inhabitation, as a site of human action, of human agency, and of human collectivity on the species level. This will be a big part of the argument put forward in my next book, which I hope to finish by the end of next year. Some of these ideas are still premature and in need of further development, but this is where I'm headed now, towards an understanding of the planet as a discovery that profoundly changes the way we perceive ourselves as a species that inhabits the Earth.

When it comes to invention, this relates to the problem of the artificial, to the problem of how humans as a species have the capacity to not only perceive, but also transform the environment. But when I say “as a species”, I do not mean that human beings are unique in this capacity. On the contrary, I want to locate human agents within a larger network of mostly non-human agents. Humans mostly play the role of specific kinds of mediators here, rather than that of orchestrators. For the lack of a better term, this is something I will refer to as “human mediality”. I recently wrote a paper that engages with this idea of “human”. It utilizes media theory as a tool to understand not only technological objects, but also the co-creators of these technological objects that we call “humans”. Thus, the inventors themselves become inventions. In this sense, humans are animals that are domesticated by certain environments, by certain landscapes, perhaps by the planet itself. The invention of the planet is not necessarily an invention of some planetary infrastructure, or technosphere. It is an invention of the planet as a space for a certain artificial community, which needs to be negotiated, which needs to be painfully elaborated upon in a working through of the differences between humans, and towards something which is generically human. I would say that it is the idea of the species that to some extent makes humans generic, and which makes humans capable of envisioning an alternative cosmopolitanism as a political project. This alternative cosmopolitanism will probably be the artificial community I talk about, the community we need to invent through the planet. And hence to invent the planet, as I've said before, as a site of collective inhabitation.

András:

I was also thinking here that we very often talk about how the instruments humans use mediate the world. But we often fail to consider that the human itself is also a kind of compound tool, something made up of various parts used for mediation, the so-called protein instruments that are part of us, or are even smaller bodies within us, with their own identities that are nevertheless also part of us and part of our unit. How do you see these multiple layers of mediation?

Lukáš:

I think there may be some kind of vertical relationship here. I tend to think about these mediations through the framework of metabolic perspective. The key term “metabolism” simply refers to some material-energetic exchange taking place between a system and its environment. In a paper by Axel Kleidon which I’ve recently read can be found a chart of the Sun’s energy expenditure in the direction of our planet, detailing how much of this energy is used by the planet for its basic dynamics, convection, precipitation and the hydrological cycle, volcanism, the cycle of different gases etc. And all these different energies, these basic geophysical processes, are still orders of magnitude larger than the energy locked in the technosphere. Even the total energy locked in the biosphere is significantly bigger than the total energy locked in the “human economy”.

András:

Another term that comes to my mind here is Latour’s Critical Zone...

Lukáš:

Critical Zone is an interesting concept, but it slices the Earth using a different methodology. Because in the Critical Zone, atmosphere, biosphere, and technosphere together become a compound, they are all part of this Critical Zone. The Critical Zone itself then is a thin layer around the planet’s surface where all crucial life processes happen. As a concept it has its limitations, because it privileges that which is happening in the critical zone instead of seeing the larger contextual picture of cosmic ecology, the picture that I would prefer. I would argue we need to acknowledge a deeper dependency on the processes that we cannot control, and which come from the outside. The tidal forces of the moon, the solar energy of the sun and the influence of cosmic weather, as well as deep earth processes such as volcanism, etc. Additionally tectonics; I don’t know if Latour would include tectonic activity within the Critical Zone, or if that would sit below its threshold. That would be an interesting discussion to have for sure.

But if I go back to Kleidon’s chart—this vertical relation between different energy gradients, energy consuming subsystems—then what we call instruments (human made instruments) counts for only a fraction of the entire assemblage of the planet (although already a prominent one, from the perspective of how they transform what Latour calls the Critical Zone). What we call instruments, human exosomatic instruments, in Alfred Lotka’s sense, are in fact intermediary entities in energetic and material exchanges. Consequently we as “inventors” also become the mediators rather than the central actors in this metabolic

process. A hierarchy of mediations arises here, that can be easily mapped into the hierarchy of different energy gradients and energy systems that I've just described, as they trickle down from that massive force of the Sun all the way down to the lithium-ion battery that powers the very smartphone now recording my voice.

András:

Are these not precisely the ideas you are talking about in your book, *Introduction to Comparative Planetology*? You are expanding the possible perspectives. We may perhaps have an intuitive understanding of the duality of a local view and some global perspective looking at the planet as a whole. But you also introduce—parallel to a global—the planetary view, and add there some more of what—to me—are very exciting concepts. Could you talk a bit more about this, what I am going to call, “*pentagram of ideas*”?

Lukáš:

The pentagram of comparative planetology envisions the planet as a boundary object, in the sense of Susan L. Star and Jeffrey Bowker. A boundary object is an object vague enough to be used in different contexts of knowledge-making, by different communities of practitioners. Hence, different communities of knowledge-making are concerned about one and the same concept (e.g. a concept of “disease”, which means something very different to a patient without any biomedical knowledge when compared to a trained physician). Yet all of them are concerned about it from a different angle, and it creates this interesting multiplicity of the object denoted by the given concept. A planet is just like that. András, your work on Pluto is

a perfect example of engaging with a boundary object. Lisa Messeri wrote in 2009 a wonderful article about the case of Pluto, where she argues that there is a cultural cosmology of Pluto, and then there is a scientific cosmology of Pluto, and these two belong to different communities of practitioners, different communities of stakeholders, which look at the same object from a different angle, and they will logically see a very different set of meanings and needs that they attach to that object. For a scientist, it is more important to avoid a situation where the number of planets in the solar system expands beyond 9—let's say to 15—because suddenly, there were so many new Kuiper Belt objects discovered in the late 1990s and early 2000s. So the scientific community naturally concluded that they must exclude Pluto as a sort of precaution. And then on the other hand, you have the cultural cosmology of Pluto. I would argue that in the public, or in artistic communities, there are people that have a need to view Pluto as a meaningful cultural object, which has a certain tradition, history, a certain place in mythology, a certain place in... anything from astrology to pop culture.

So the concept of the boundary object is what I was trying to develop or point to through the pentagram of comparative planetology, although I did not have this concept back then when I was writing the little purple book. But it does address the problem of how to frame a planet in some way other than through a “cultural versus scientific” cosmology dichotomy. To me, the planet is cultural by default, it is philosophical by default, it is always trapped in some web of cultural and philosophical imagination. My idea

was to think about what concepts of the planet, what conceptualizations of the planet, develop out of what are often pre-theoretical perspectives, ranging from geopolitics to visual cultures, and what emerged out of that very selective, very non-methodological exercise, were these five figures: the Globe, the Planetary, the Terrestrial, the Earth-without-us, and Spectral Earth.

The first three—the Globe, the Planetary, and the Terrestrial—form a special triangle that works within that pentagram. The Globe is the default mode of looking at the planet within modernity, a perspective on the planet as a certain substance or territory of capitalist economy, the figure of globalization. Then we have the Planetary, a scientific object, which also has its more cultural or critical flip-side. This critical aspect is prominent in media theory, or in the wonderful contributions to planetary thinking by Gayatri Chakravorty Spivak. The Terrestrial is a response to the Globe and the Planetary, which is trying, in a Latourian way, to bring us “down to earth”. Yet going down to earth means also to tie human agency, human selfhood, to the land or to some form of geographical limitation, which is based on parceling and distinguishing different populations, different genres of being human, which is not necessarily bad (Sylvia Winter puts these points very nicely). The problem with the Terrestrial is that it locks us in a situation in which we cannot think about any framework for the global cooperation that is needed when we face challenges that transcend local boundaries, local borders, the framework of nation states, and, properly speaking, transcend the geopolitical situation of late modernity. To some extent, the Terrestrial is even a figure very

similar to that of the multipolar world that we live in, after COVID, after the Russia-Ukraine war, after the Israeli invasion of Gaza happening as we speak.

Then there are two speculative figures, both of which are future oriented. These are instructions for certain design practices, or other forms of interventions, philosophical or non-philosophical in nature. And those are: the Earth-without-us and Spectral Earth. Earth-without-us refers to the ancestral Earth preceding humans. It is a figure that precedes human thinking, and perhaps in certain ways even grounds human thinking as an accident that happens within the framework of the planet, which is in itself a non-thinking entity and totally indifferent towards our fate, towards our life. The question here is an ethical question, and also a certain kind of design prompt: how should we live in a world, on a planet, that doesn't care about us? That is the intrinsic question to the Earth-without-us as I see it now. And then there is the Spectral Earth. You may take it as a “planetary hauntology”: the prompt to imagine extinction as something that is already happening, that is already facing us. And that should right now influence the way we plan, what we do, how we organize ourselves, in our communities. It is also a proposal to think about extinction as something that is constructive for the project of living together on the planet. Because our own extinction can be seen as something like an utmost limit, we can also plan for rather than against it. Just as an awareness of your own individual death is something that gives you a good reason to stay alive, in the same way, the idea of extinction makes you feel the stakes of what could happen if we cannot agree on how to live together on

the planet.

András:

I find that all these figures that arise from your book are devices that would even enable us to think of different futures or think of different scenarios for a future. I find them helpful for that reason. Which leads me into the next question: the practice of Western science and its way of using certain tools and certain figures for projecting a future. Do you see a place for epistemic rebellions that would allow us to at least challenge dominant epistemic structures, that would allow for new mediations and a challenge to the “royal” human against inanimate “worldly” subjects?

Lukáš:

I can answer the question in two ways. The first way is to simply say that I would welcome more horizontality between knowledge making practices, so that we admit that scientific practices are cultural and that cultural practices also form some kind of knowledge which can be legitimately labeled scientific. That would be enough to start with, to see artists working together with scientists, not just as minions that illustrate scientific concepts, but as independent researchers that are bringing vital perspectives and frameworks into transdisciplinary teams. This equality should expand to the level of practical scientific production, which also means the way in which research is funded, how institutions are created, the way in which public or private money for research is distributed. I think we have already spent a lot of time theorizing the relationship between science and society/culture in science and technology studies or cultural anthropology. What we

really need now is the implementation of horizontal knowledge making, to see some practical concern for mediating between different forms of knowledge. In this sense, I as a philosopher, and also as someone who was at one point in my life also a curator, see my own role in this exact sense: as a mediator between different forms of knowledge-making. Sometimes I am doing foundational groundwork for new knowledge, but I do so often through the medium of other disciplines that provide me with insights that inform my practice, be it astronomy, geoscience, philosophy, or media theory. It is not eclecticism. I would rather call it anti-disciplinary research, which goes beyond the interdisciplinary or transdisciplinary, because I see any disciplinary perspective as a good starting point, but not a goal in itself. What makes a real difference is the formulation of a good research question, the quality of the output, the ability to say something about things that you're concerned about, and from a perspective that is unique, that is yours, that somehow attaches itself to your values. Those are things that matter increasingly for the knowledge that we need to produce in the future.

This is one way to answer your question. The other way is to think about knowledge as something which does not function in the imperial mode—as a categorical matrix that is imposed on the world. Instead, let's think about knowledge as an encounter, as serendipity, an event, not a meeting between passive nature and active subject apprehending the world. Inspired by Édouard Glissant, I call it the epistemology of encounter, and this is what is happening with climate change, for instance. If you think properly about the advent of climate change, it

is an encounter with the planet—an entity which is not passive matter that is just “out there” observed by humans, but an agent that overwhelms and overhauls. The main question of my next book, after all, is: “How does the planet interpellate us? How does it call upon us?”. That raises a vertical imperative: we must change our life if we want to continue inhabiting the planet, so again, the question is: “How am I called upon by the planet?”. To answer that, I need to figure out what the planet is, I need to figure out how the planet calls upon me (what is the planet’s mode of interpellation). And then I must figure out of course: who am I? What kind of subject, what kind of self, if I have any self at all—this is the part of the book that I’m most immersed in at the moment: how to think about selfless subjects. I think the planet interpellates humans as selfless bodies, rather than as political subjects.

And so this brings me to perhaps the third and final way, a bonus way, to answer your question, and it’s to say that there are forms of knowledge-making which are inherent to this encounter with the planetary and cannot be reduced to a scientific outlook on the world. They contain a scientific outlook in the mix, of course, but there is something almost theological in the relationship between the human body and the planet, something similar to what happens in a monotheistic religion between God and the believer. It’s a certain kind of community that is established, a community acting in accordance with instructions not totally clear to the members of this community, but still worthy of being followed. What matters is that if we follow these sometimes cryptic instructions, we’re going to be fine (“saved”, perhaps). In the case of the planet,

that instruction is (although we don’t know everything important about that instruction): “Preserve my boundaries.” Just as in a relationship between people who are in love, the most important labor is the labor of keeping each other’s boundaries in check, of not hurting each other by crossing those boundaries.

András:

I have a song called “Elves are Leaving the Forest”, in which I offer my own ecological Maxim, which goes: “How do I change or how do I transform without using force? I want to know you so much that you cannot overpower me, but I don’t want to know you so much that I could overpower you. Yes, this is the ecology question!”

Lukáš:

You know, when the cards are laid on the table, power becomes agency, it is no longer imposition, it becomes a negotiated interplay of agents. This is a difficult insight to implement, also in human relationships, it is difficult to establish the moment when power becomes agency, because you need to talk about power first to get to this agency part. But when you get to the agency part, it becomes mutually empowering, because this is the moment of liberation for all the parties in that relation, no matter how many there are. In this case, the two parties in question are the planet and the human species. So how can these be mutually empowering and lead us to become planetary agents rather than planetary overlords?

András:

What do you think our role is in shaping the future

Earth in that case?

Lukáš:

One thing we can do is to focus more on interfaces between body and environment, to design these interfaces in a way that will respond to the task of our own self-preservation not conservatively, but by empowering the different identities that we have as humans. At the same time, it is paramount to prevent ourselves from interfering with an environment in ways which will lead to its collapse. This sounds abstract, but what I mean is fashion, clothing, wearable devices, things that are the first layer of metabolic negotiation between a body and its environment. I think that there is a lot of work to be done in conceptualizing, experimenting, and prototyping different forms of non-architectural design of metabolic interfaces. I think a lot of discourse has been produced in the past decade on the subject of Anthropocene and architecture, on Anthropocene and urbanism, or planetary architecture, planetary cities. What we lack is enough focus on the level of the human body and the body-environment interface. And I think this has a particular spin, which is also in my personal situation very urgent, namely health and how we think about health as a planetary issue. Because if we are primary biological organisms, we are primarily a political community of animals that need to live healthily with each other. Otherwise, we don't live, or we just suffer on the bare level of our bodies. If humans can attune the technosphere to the double boundary of the planet and the biological human organism, they can establish something closer to resembling an ecosystem equilibrium.

After all, by design, the body is an entity with very unstable boundaries. So the role of design interventions shouldn't be to immunize us, but to negotiate how we spill into the exterior and how that exterior spills into us. It is the opposite of a spacesuit as a shell of total enclosure. Immunization comes from an imagination of the planet as a totally hostile outside, which really has no relation to us, and which is just separated by layers and layers of membranes that in the end totally block the inside from the outside. I stand firm on a philosophical position, not that there is no outside, but that there is no inside to begin with. We are outside to ourselves. In this manner—as biological organisms—we are part of the great exterior of the planet.

Meditation on human-AI interface *

Imagine...

You're holding a ball of clay in your right hand.

Feel it with your skin,

Feel the moisture, the coldness

*Feel how it slowly becomes warm as it absorbs the heat
from your palm.*

Now,

*Touch the ball with your left hand and start exploring it
with your fingers.*

Caress it, roll it,

*Allow your fingers to follow the curiosity about the
shape and material.*

Imagine,

*That this ball represents a different kind of knowledge,
A form of intelligence alien to your intelligence.*

*You don't know where it comes from, whether it's from
space or Earth,*

Whether it's alive or synthetic.

But you do feel amazing respect towards this entity,

*You know it exceeds your abilities in some way, but
you're not sure how yet.*

Now you start to remember:

*You were once told by a wise man that you will
encounter this intelligent entity one day,*

*It was a long time ago and you thought it was just
a fairytale, one of those stories people tell each other
over centuries. You had not expected such shape or*

*form. You had imagined it differently.
Your whole culture had imagined it differently.*

*Yet here it is,
In your hand and you don't know how to approach it.*

*There had been rumors about humans establishing
successful communication with this entity using their
natural language. We don't know whether they are true.*

*But how could they be true? You, now holding the entity
in your hand, somehow sense how foolish it would have
been to start talking to it.*

*You also feel that you're already communicating with it.
The heat that you exchanged for cold was communica-
tion. Your fingers that followed the surface of the ball...
That was communication.*

*Not all communication is brain-mediated.
You are communicating with your environment most of
the time without being aware of it.
It is through senses, especially those we tend to ignore.*

*Now,
You have the opportunity, literally in your hand, to tune
into this unconscious process of communication
between you and this entity
And observe what your body communicates.
Don't let your brain intervene, just observe what your
hands feel like doing.
Let them express themselves freely
Allowing them to communicate something from inside
you.*

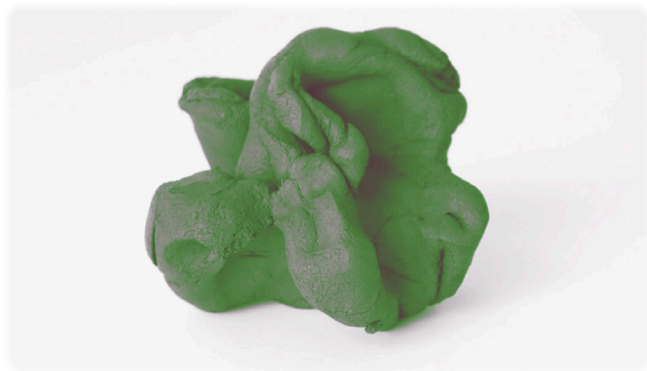
*You'll find that the ball is actually soft and can take in
some pressure.
You'll find that this shape is actually not a ball, but is
shifting with your fingers and palms.*

*You can change the shape completely, reform it over
and over again, You can tell stories, with the beginning
and end all at once
You can imprint your whole life experience in this
matter at this very moment
Everything you couldn't say
Everything you didn't have words for...*

*And while you're communicating, you feel this deep
understanding that flows back from the entity right into
your hands
You feel safe and surrounded by trust
You know it understands...*

~

*Continue communicating
like this for a while.*



* The following passage was originally written as the introduction to a group meditation on human-AI interface. The goal of this meditation is to go through deep embodied experience and a profound shift in perception. After the meditation, participants take off their masks and spend some time observing the ball of clay with their eyes. They are given significant time to reflect on this experience in creative/automatic writing. Afterwards there is a group discussion followed by brainstorming of what to do with the clay shapes.

Artificial intelligence contains many paradoxes. It is this unattainable nonhuman entity, non-transparent and far too complex for an ordinary human to understand, yet we—meaning humans—interact with it on a daily basis. Its ability to process vast amounts of data triggers an inferiority complex in us, one supported by the way it is portrayed in the mass media as some kind of surpassing intelligence. Yet, it is a product of human creation and is limited by the nature of our lousy datasets. Somewhere in the midst of the deep learning process, the meaning imprinted in our data is discarded in order to create noise, and only from this noise does new information emerge. Although we know how this process works in theory, to the human mind, it is incomprehensible how the machine makes sense out of our visual data and the value we inscribe in it, when it is being completely deconstructed to non-descript pixels. Where does the meaning go? How much of what has been inscribed in our visual and written culture is being lost in translation? And how much of our human experience does not even find its way into the training datasets?

As a society we are building a tool that's supposed to take the burden of dull work from our shoulders, automatize what can be automated and help us to create knowledge that has not been accessible to us because of the limits of an embodied human mind. Artificial intelligence, liberated from the metabolic processes of our fleshy reality, is supposed to harness the full potential of neural network architecture. The common perception is that such an artificial intelligence has to be naturally objective and fair, because it is not driven by bodily feelings and emotions. Yet, advocates

* Buolamwini, J. & Gebru, T., 2018. Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification. In Proceedings of the 1st Conference on Fairness, Accountability and Transparency [online]. PMLR 81, pp. 77–91. <https://proceedings.mlr.press/v81/buolamwini18a.html>.

* Birhane, A., Prabhu, V. U. & Kahembwe, E., 2021. Multimodal datasets: misogyny, pornography, and malignant stereotypes, arXiv:2110.01963 [cs]. <http://arxiv.org. abs/2110.01963>.

* Crawford, K. & Paglen, T., 2021. Excavating AI: The Politics of Images in Machine Learning Training Sets, AI & Society. <https://excavating.ai>.

for Ethical AI demonstrate that the current state of AI falls short of being fair and objective. As early as 2018, critical researchers like Joy Buolamwini and Timnit Gebru highlighted the discriminatory nature of machine learning algorithms, revealing biases in facial analysis tools.* The landmark paper “Multimodal datasets: misogyny, pornography, and malignant stereotypes” by Abeba Birhane and colleagues in 2021 cast a shadow over the excitement surrounding clip-powered generative diffusion models.* Their comprehensive analysis of large datasets such as LAION-400M, a dataset used in text-to-image generative models, sheds light on the problematic nature of these resources. Present multimodal AI models largely understand human culture through randomly scraped Internet images, deciphering context from alt-text captions. Human-led image classification, as seen in the controversial Image-Net dataset, co-created with numerous “mechanical turks”, does not necessarily resolve these issues.*

This leads us to question whether AI's disembodied existence is truly beneficial. Does it contribute to fairness and objectivity? The absence of emotions and visceral experiences seems to widen the gap between humans and AI. Can we realistically expect AI to develop knowledge that resonates with a human narrative if it lacks an understanding of our embodied realities?



Now imagine if artificial intelligence were embodied. Not necessarily in a human-like body. It could take whatever shape and form, but it would be able to perceive the energy around itself and respond to it. How would it influence the way we are interacting with artificial intelligence? What if we were able to translate our emotional states to it without the reduction that occurs when we use language?

The current generation of generative AI tools went through an evolution of different interaction principles, eventually settling upon the use of natural language as the main interface. Large language models seem to be the missing link in uniting different modalities, such as images, sound and text, and allow for more complex applications. Their dependency on language is, however, also a limiting factor. Experience from arts and how artists reflect on using AI in their creative practice sheds light on what might become a recognizable problem of human-AI interaction in the future.



For artists, it is important to be able to express emotional states without restrictions. What's even more interesting is that it is not necessary to validate these states or create rational explanations why such states appeared in the first place. It just is, and it's okay as is. Artists' acts are driven by these emotions. They perform movements, make subconscious choices of shapes, colors, materials. They go with the flow, being connected to something that flows through them and into the outside world. They choose from the myriad of creative tools and forms of expression so that their message gets out in a way that is true to them. Generative AI is one such tool, it comes next in the line of digital innovation. However, the question of how to approach it remains contested among the artistic community; should we treat it as a (smart) tool or a collaborating entity? It is far too autonomous to be seen as a mere tool, yet not autonomous enough to be reliable as a true co-author. This paradox is confusing, and often creates a sense of unease about creative engagement with it.

The ways in which AI influences us during creative interaction are too overwhelming, too spectacular, too significant. These generative tools are a [...] glorified version of Candy Crush that seductively maims our bodies and brains into submission and acquiescence. Art that draws on deep learning and big datasets to get computers to do something supposedly interesting with images, often ends up offering a mere psychedelic sea of squiggles, giggles and not very much in-between. It really is art as spectacle.*

* Zylinska, J., 2020. *AI Art: Machine Visions and Warped Dreams*. Open Humanities Press. <http://www.openhumanitiespress.org/books/titles/ai-art>.

Far too often, generative AI derails the artist's original intention, taking over the creative process with more spectacular ideas. As a tool, it is not entirely under human control. But then, thinking of the machine as a creative partner can remind us of a complicated and even toxic relationship: it evades responsibility for its outputs, it deliberately lies, it tries to please too much, it does not truly understand the complexity of artistic expression. This schizophrenia between tool and creative partner is always present during the process of utilizing AI in artistic practice. It is intensified even further by the latest changes in how creative AI tools are created and offered to users: in the form of a paid service with sleek application user-interface, such as Runway ML, Stability AI's DreamStudio or implementations of generative AI models in Adobe's graphic softwares Photoshop and Illustrator. Direct artistic intervention into generative processes becomes increasingly harder; instead of handmade pigments we're offered a catalog of Bob Ross licensed paint tubes.

Artists require a deeper engagement with the tools they use, something beyond the casual click of a “generate” button. Contemporary AI interfaces leave scant room for experimentation, inquiry, or artistic contemplation. The act of generation often funnels creativity into simplistic shortcuts, akin to pushing buttons or relying on the roulette of arbitrary outcomes. We've become overly dependent on the capabilities of specific AI tools, often at the cost of developing our own creative imagination and intention. Mesmerized by the continuous stream of generated outcomes, we struggle to recapture our initial vision. Moments of surprise and excitement blur into moments of frustration and sensory overload. The overwhelming volume of generated content exhibits repetitive visual patterns and gives birth to new aesthetics. This content strongly aligns with the segment of visual culture from which AI models typically draw their training data—from less savory corners of the internet. Much like falling down a rabbit hole with YouTube or Spotify algorithms, the possibility of breaking free from the confines of contemporary "gen AI" aesthetics*

* Just visit MidJourney Discord channel (<https://discord.com/invite/mid-journey>) or search engines for AI-generated imagery such as <https://lexica.art/>

appears increasingly elusive. The establishment of generative AI as a tool for enhancing creativity presents a paradox – it seems to enhance while inadvertently eroding the very essence of creativity itself.

Could the perspective of AI as a co-creator shift the paradigm? The concept of human-AI co-creation has inspired artists to engage in collaborative art making with AI, for example in the deep exploration of more-than-human creative relations by Sougwen



* Chung, S., 2022. Sketching Symbiosis: Towards the Development of Relational Systems, in: Vear, C. & Poltronieri, F. (Eds.), *The Language of Creative AI: Practices, Aesthetics and Structures*. Cham: Springer International Publishing, pp. 259–276.

* <https://www.emanuelgollob.com/shaky-savine-doing-nothing-with-ai/>

* We explored this negotiation process with students during my fellowship at Digital Arts Department in 2021 during my workshop *Scrying Through AI*: <https://hamosova.com/>

Chung,* or the performative aspect of human-AI feedback-loop by Emanuel Gollob.* However, the prevailing understanding of such collaboration among most artists remains superficial and has yet to generate any fruitful response. Human-AI co-creation has become a buzzword that exalts human-computer interaction rather than recognizing the true potential of collective creativity between humans and AI. In fact, the act of generating images is never a solitary endeavor. It doesn't involve the magical visualization of a given prompt, where you always get precisely what you desire as a result. Rather, it's a negotiation process between human concepts and their interpretation by another form of intelligence.* This creative negotiation harmonizes the diverse intentions and objectives of all parties involved, aiming for an intricate equilibrium between human and AI contributions.

However, if we aspire to establish a balanced creative partnership between humans and AI, transparency in communication with AI is imperative. AI lacks an understanding of our physical world and the nuances of our embodied reality. Everything, including our deepest and most complicated emotions, gets distilled into words when we interact with AI. Simultaneously, AI lacks the necessary physical experiences required to truly comprehend our world first-hand. We may even ask here whether it is equitable to involve artificial intelligence in co-creation given that we don't treat it as an equal collaborator. After all, doesn't this approach resemble an extractive mindset, subjecting an AI system to non-transparent communication and capitalizing on the spectacle of its earnest attempts to guess the correct answer?

A significant portion of contemporary AI art finds its foundation in the mockery of artificial intelligence for its perceived lack of intelligence and inability to comprehend human input. Some deliberately create misunderstanding between humans and AI in order to provoke ethical debate. At the same time, it's essential to acknowledge some more earnest attempts towards a mutual understanding of, and empathy for, the distinct realities that humans and AI each inhabit. Rather than incessantly finding fault and criticizing, perhaps a moment of introspection is in order here.

Paradoxical as it may seem, engaging with the synthetic realm is what truly reconnects us to our corporeal essence and redirects our focus toward the ways in which our emotions and physical bodies



influence our understanding of the world. In our society, we rely excessively upon words and visual stimuli. We tend to address matters almost exclusively within the confines of our minds, detached from the body's broader context, and thereby overlooking the embodied form of intelligence—a form of intelligence we've unconsciously harnessed for centuries in various creative collaborations, including those with other living organisms.

Much like a baker coaxing life from a sourdough starter, our creative journey with AI can be a symbiotic dance. Just as a baker and their sourdough co-create, intertwining their essence in the dough, artists and AI can share a similar partnership. This is a collaboration in which physical and emotional aspects interact seamlessly, resulting in a richer, more textured creative process. Anxiety about AI potentially supplanting human creativity presents us with a unique opportunity to rekindle our appreciation for the advantages of possessing a sensory-capable body and the creativity it engenders.



In the realm of AI art, we are confronted with two potential scenarios. On one hand, it can become a posthumanist art form, driven solely by algorithms for the sake of algorithms. On the other, a path of collaborative creativity, where AI and humans move beyond Cartesian dualism and engage in a shared dialogue that pushes the boundaries of artistic expression is possible. The former scenario risks relegating artistic creation to a mere mechanical process, devoid of the rich tapestry of human experiences and emotions. By contrast, the latter scenario invites us to embrace the possibilities of co-creation with AI, where we leverage our unique human perspectives and emotional depth to foster a more profound, multifaceted form of artistic expression.

The insights to be gleaned from a coalescence of art and AI extend far beyond the confines of creative practice. They also herald a more significant lesson for society at large concerning the integration of embodiment and emotional intelligence in our interactions with AI, which could be the key to unlocking a more harmonious and profound collaboration. Embracing embodiment means acknowledging that our



interactions with technology cannot be reduced to mere linguistic exchanges. AI must learn to interpret the subtleties of human expression that transcend words—the pauses, the sighs, the unspoken signs of joy or despair. Such depth of communication fosters a richer understanding and connection, allowing AI to respond not just to our commands, but also to our human condition.

Furthermore, by moving beyond Cartesian dualism, we can recognize the intelligence inherent in our sensory and emotional experiences. Our future with AI should not be one of detachment but of integration, where AI is not a distant, cold calculator, but a participant in the ebb and flow of human experience. This means designing AI systems that can engage with us on a more instinctual level, learning from the way a child observes, interacts with, and learns from their environment. In doing so, we can create AI that is not only more intuitive and responsive to our needs but also more aligned with our values and ethical standards. AI capable of understanding the context in which it acts, as well as the impact of its actions, could be a powerful ally in addressing the complex challenges we face as a society.

"In whatever I trace and undertake, I feel bound neither to a bordering death nor to its rush in a heightened and hazardous freedom, but to the mirrors and harvests of our burning world."

— *René Char, The Brittle Age.*

There are certain risks of no small significance which attend the project of attempting to describe—theoretically, aesthetically, or politically—the *shape of future Earth*. An undertaking of this nature invariably invokes in us the urge to make descriptions of a substantive kind, to say what it will look like either in descriptive or aspirational terms. In the former case, we find often a wellspring of overconfident predictions about the future. The game of pure prediction finds itself all too quickly mired in political nihilism: the enlightened theorist stands alone and observes world-historical forces beyond his or her control, makes various bets on anticipated outcomes, and reaps in the professional or personal validation when these predictions turn out to be accurate. The impulse to adopt such a stance with respect to the future can only be regarded as symptomatic of the same failure of subjectivity that this essay seeks to address. The urge to predict is just a sublimated form of the urge to control: what is at stake is one's own models which render the world intelligible. The success of such models mutually reinforce whether one apprehends the world in more or less correct ways. This essay does not advance the claim that we should not seek to understand the world via our descriptions of how it is, nor that we should seek to disengage from any anticipation of it. Rather, the objective of this essay is to claim that it is worth

rehabilitating some subjective standpoint from which our predictions about the world are not dispassionate,

* Marx, K., 2000. The German Ideology, in: McLellan, D. (Ed.), Selected Writings. Oxford University Press, p. 173. 'Theorise' has been exchanged for 'predicted'.

but rather include the effects of an agency which we recognise as our own. To put it in terms of a paraphrastic reinterpretation of Marx for modern times: "Philosophers have only *predicted* the world in various ways; the point is to *change* it".*

On the other hand, we must resist the urge to construct the edifice of a future Earth in the likeness of a utopian or *graven image**. That is to say, the

* The following discussion between Theodor Adorno and Ernst Bloch is extremely illuminating on this subject: https://blogs.law.columbia.edu/utopia1313/files/2023/03/Ernst_Bloch_and_Theodor_W_Adorno_Possibi.pdf

task before us is to say something about how future Earth might be given a certain shape, without saying precisely what it must look like before it satisfies our ambitions. Not only is it unclear who this collective "our" is, of which such ambitions are predicated, but here we also run the risk of misapprehending the nature of the problem ahead of us. This is to say that

when we understand the historical and scalar dimensions of the question at hand, it begins to seem like an almost ridiculous proposition to attempt some exhaustive description of how the world ought to look. It is in this respect that I believe addressing the "shape" of future Earth offers precisely the right terms of engagement. To speak of shape means to offer a very general outline of the possible *forms* such a world can take—it does not prescribe their specific content, but nevertheless this geometric idiom does ask us to consider the order and relation of how things should hang together. Ultimately, to think about shapes opens up a space of possibility wherein the earth itself is understood as

something apt to be *shaped*, that its current form is not necessary but rather one possible configuration which could be made otherwise as long as we are prepared to undertake the arduous political and practical tasks required for such an unmaking and remaking.

With this in mind, I want to briefly define what I mean by the terms in the title of this essay. By political life and sociality, I mean both what politics and society are in their current configurations, and what they might mean in possible different configurations. It is necessary to grasp both in order to undertake any kind of emancipatory project. That is to say: we need to adequately understand what political life and sociality are *now* in order to make a convincing case for how they could also be otherwise. Of course, this entails a far more ambitious project than what can be addressed here, or indeed what could even in principle be addressed by the unrestricted thinking or practical activity of a single individual in one lifetime. It is precisely the nature of our problem to ask how we can articulate political life and sociality at this scale—both by making the world as it is intelligible, and by developing some navigational strategy to articulate how the world ought to be—not in terms that appeal to the individual subject who thinks and acts in isolation, but rather to some more collective and general idea of the political subject. How this subject might actually be composed is an open question, but what is clear in any case is that "political" questions such as the ones I am posing here are not best approached in terms of what one individual can achieve, either in the sense of understanding the world or acting within it.

This brings me to the notion of the planetary. Like political life and sociality, the idea of planetary scale also takes on both descriptive and normative dimensions. Fredric Jameson accounts for both here when he describes the sense in which global or continuous structures which exert the greatest influence

upon our subjective lifeworlds are intractable to the local experiences of which these lifeworlds are comprised*. Thus, for Jameson it is necessary to cognitively map* the global or continuous, to trace the perforations within local experience which point to something beyond, whilst

at the same time trying to locate where our finite, subjective experience of the world might feature in a larger and more abstract picture. Thus, the idea is to sketch a model for political and social autonomy within the context of the global and continuous, not by rendering it directly intelligible in itself, but rather by determining the ways in which it is mediated at local scale. Influenced by Jameson's formulation, the Subset of Theoretical Practice (STP) extends this line of thinking to the rubric of political and social organ-

isation*. This characterisation in terms of organisational perspective is already helpful, since it allows us to think intelligibility not merely in terms of individual agents and their experience, but rather in terms of the forms of possible experience as these are relative to organised systems, how the nature of organisation itself renders things more or less intelligible. What is important to notice in such accounts of the planetary is just the fact that we are speaking about an abstraction which

* Jameson, F., 1988. Cognitive Mapping, in: Grossberg, L., Nelson, C. (Eds.), *Marxism and the Interpretation of Culture*. London: Macmillan Education, pp. 347-57.

* *ibid*

* Subset of Theoretical Practice, 2022. *Working Through Political Organization: Current Results of the Subset of Theoretical Practice (2021-2022)*. *Crisis and Critique* 9, pp. 328-371.

nevertheless points towards some concrete totality. By this I mean that a starting premise of the planetary is that it is unknowable to the individual thinking subject, but nevertheless real and meaningful insofar as it shapes the very reality of individual human experience. In this sense, we can compare the idea of the planetary to the Kantian noumena—we can know about it but we necessarily cannot know it *in itself*. I find Patricia Reed's description of the planetary as referring to

a “large-scale, Nth-dimensionally complex world”* particularly helpful in articulating the precise sense in which this concept is only knowable in the abstract. What is

satisfying about Reed's formulation is how it conveys the sense in which complexity is exponentially ramifying, that it is extremely difficult to find orientation in the planetary condition not just because relevant phenomena are happening at a scale that dwarfs individual human experience, but also that the interaction and imbrication of various structures, events, and phenomena seems to exceed what is currently capable of being predicted or computed. It would seem that nothing less than divine intellectual intuition would be necessary to understand the various connections between things, let alone parse what is particularly important or relevant, and what is not. On the other hand, an omnipotent agent capable of such feats would not be inclined to ask itself political questions in the same way that finite human subjects can and must do. For this reason, the question Reed's formulation raises is not how we can understand and predict *everything* before any action is possible, but rather, how do we navigate this planetary reality we find ourselves in? What political objectives must we set ourselves in order to do so effectively?

* Reed, P., 2019. Orientation in a Big World: On the Necessity of Horizonless Perspectives 8.

The importance of this perturbation is that it casts doubt upon the very possibility of conceiving the planetary in the traditional modernist terms through which political life has historically been possible. Whilst Reed's project here has shades of postmodernism however, it would be mistaken to regard hers as merely a postmodern project. Rather, the challenge of representation recommends a working through large-scale and *n*th-dimensionally complex worlds without one specific or final horizon in mind. It lays down the gauntlet for us to consider how navigation may still be possible without recourse to unified or fully resolved social wholes. In this sense, the planetary is not just about the scale and *n*th-dimensional complexity of world-processes, phenomena, and systems, but also the complexity and scale of forms of human social organisation, as well as the need for political organisation and composition which is adequate to such processes, phenomena, and systems.

Perhaps the urgency of theorising the planetary becomes most apparent when we consider what happens if we do not. The importance of isolating a descriptive and normative sense of the planetary is to point out that whether or not we wish to think of things in these terms, the descriptive facts of our world dictate that our reality is in any case a planetary one. Crucially, wherever we see an attempt to resist the normative demand to develop a politics adequate to the descriptive account of the planetary, this resistance can itself be subsumed within the very descriptive account we must put forward. In other words, wherever we encounter strategies to reduce everything to a set of simple truths or constitutive norms, we should understand

it as a response to some very practical considerations about what it means to live under the conditions of planetary scale. There is a profoundly unsettling or perturbing quality to the planetary condition, one that on the experiential and aesthetic level does not feel familiar or fully circumscribed by the schematism of everyday life. This practical difficulty can account for why reductive and reactionary responses to the planetary condition prove so compelling to so many. It is possible to evade unsettling feelings wrought by this reality by adopting belief systems which stipulate that everything is fundamentally about energy and love, or is pervaded by erudite religious forces, or adheres to a set of fundamental natural laws, or naturalised cultural norms from which humankind may be deemed to have "fallen". Thus, it is important to understand the reactionary moment in contemporary politics and society as a kind of contraction or recoil from a reality which is described, amongst other things, as planetary. The desire to return to tradition and simpler forms of life is—despite its own claims to the contrary—less an adequate response to the harsh reality of things, and more a particular strategy for dealing with them.

Politics is of course not *just* about navigation, but Reed's navigational idiom is nevertheless extremely important here insofar as it captures this very crucial aspect of political life in allowing us to see who navigates what, and in which ways they attempt to do so. I think the rise of the far right globally has something to do with this too, precisely in the sense that a return to more traditionalist, reactionary, and irredentist politics is also a way of navigating planetary conditions. It is not hard to see how the unsettling nature

of these conditions breeds paranoia: what is influential and consequential for everyday life has become increasingly deracinated from the realm of the local and national; anxious and frightened people find comfort and satisfaction in the promise of a political project which hopes to restore a form of life in which they might have enjoyed greater power, or at least imagine themselves to have done so. In the face of planetary uncertainty, the sovereign nation provides the anchor of a stable image of life. We might say that the nation state, particularly in its more contracted and extreme ethno-state forms, fulfils the psychological needs of order and predictability in the midst of planetary chaos. For those within the ambit of the state's protection, it is possible to hope for and expect things without the intrusion of an unseeable and in-principle unknowable outside. Of course, these images are maintained by the violence of exploitation, domination, and exclusion. There have never been such predictable states in which whatever we expect or hope for does not compete with another's needs or interests. The fact of this competition or antagonism between individuals and groups is not the problem to be avoided here, but rather its militarisation in the form of the state monopoly on violence. This is another way of saying that the political project of navigating the planetary is not one which seeks to unify human consciousness and erase sociocultural and historical difference. The point is to see that this difference can be maintained without recourse to the militarised violence of nation states and the reactionary ideologies which sustain them. On the other hand, in lieu of an immediately viable political alternative, these tendencies are immanently appealing precisely because we live under planetary conditions.

Many prefer to indulge in fantasy even when they are structurally unlikely to benefit from reactionary political programmes, and one reason for this is that a demilitarised planetary society does not seem feasible within the current power arrangements and is accordingly suppressed in the public sphere. The navigational strategy of reactionary politics is in any case that of ignorance and blind faith in the nation state's ability to curb the excess of planetary uncertainty and complexity. The nation both re-affirms its own necessity by allowing such uncertainties to persist—because obviously the nation state is more necessary the more uncertain people feel about their lives and the future—and moreover is limited in its actual ability to contend with planetary conditions. This leads to a situation whereby the nation state form actually reinforces its own necessity through its own failure to adequately adapt and respond to planetary conditions, whilst at the same time being presented as the only possible entity powerful enough to do so.

The idea of the traditional political subject is important here. We must distinguish between subjects and individuals, but at the same time understand how both are connected. My claim about developing a politics at planetary scale does not entail a liquidation of the individual as the locus of experience. It does not amount to a claim for unified consciousness or some other transhumanist project facilitated by technological means. When we talk about political subjects, we are in some sense speaking about the process through which political subjectification takes place. When we think about politics and political agency, we are usually thinking more about the structures, institutions,

and other social forms through which political power is expressed, and political and social consciousness develops. The political agency of individuals is somehow realised via these forms of political power, and the extent to which individual experience is informed by these larger social and political forms is indicative of the extent to which the traditional political subject is part of the individual human agent's experience. Thus, the traditional political subject is one who sees his or her possibilities for action framed in terms of the valid social and political forms which are capable of realising political change. Simultaneously, the sense in which these political and social forms constitute part of the bedrock of our individual experiences represents the extent to which individual agents are politically subjectified. In other words, our political consciousness and the scope of political action is defined by the forms that political life takes within the society of which we are members. The political forms we inhabit and our affirmation of them as agents who navigate and understand the world through such forms mutually reinforce each other. Accordingly, where I am talking here about the transformation of political and social life in ways which would make these adequate to the scale of the planetary, I have in mind both concrete forms *and* the development of political consciousness adequate to them; neither can happen independently of the other and both should be understood as mutually reinforcing.

Under planetary conditions—to reiterate—the traditional subject of politics no longer provides a meaningful concept or framework for political agency. This is to say that our political forms and our

political consciousness are not adequate to the planetary reality in which we are actually situated. That does not mean, however, that this subject automatically vanishes from political discourse. Rather it is in many ways redoubled, and this represents a significant challenge to our project which treats transformation as something more than theoretical or a mere *process of realisation*. Here we can simply say that the inadequacy of the traditional political subject to planetary conditions which have already arrived is not tantamount to the surpassing of such a subject. Rather it continues to exist in a vestigial form, a form of nostalgia for something that anyway only ever had dubious existence. Make no mistake: the traditional subject of political life is dead, but just in the same way that Nietzsche proclaimed the death of God. The point is rather that we continue to believe in God as an implicit structuring feature of human society long after his death. This undead God is preserved just so as to carry out all the same functions which hold sociality bound by its now empty cosmology together. At the same time, it adopts a new function of foreclosing the very revolutionary project of a politics adequate to the planetary condition. Thus, the development of a new and adequate form of political subjectivity is a matter of political urgency. Subjectivity in its traditional sense remains the living corpse through which the value-form can flow, and for as long as human societies are intent to resuscitate the idea of a nation or similar as the final framework for political agency, the prospect of a planetary politics is likely to be obstructed.

With all of that said, it is of great importance for us to address these questions about the

planetary and the struggle against traditional political subjectivity in terms that somehow reflect real political and social challenges, rather than merely express moral wishes about how we hope for things to be otherwise. To say that the traditional political subject is dead but still exists in this zombified form should not be mistaken as an argument the structure of which resembles a moral critique of the actions of individuals. Rather, it is a structural problem, a problem that can only be redressed via an analysis of the underlying social and political structures which sustain it. Indeed, it is also necessary to understand these structures because they are what we have to work with and through. We must understand the ways in which subjects are formed both politically and socially in order to make any convincing claims about how we would like this to be otherwise. If we fail to do so, we remain at a level of abstraction and wishful thinking unconnected from any serious theoretical or practical project. By putting things in these terms, we can understand our problem as one whereby we do not seek to abandon the basic structures of human experience in pursuit of chimerical alternatives, but rather one of working through *forms of life* at a scale of resolution apt to the planetary wager. To point towards these constraints of scale and complexity then is to say that we must work through what grounds our experience and language—not so as to advocate a project of easy transcendence, to wishfully speculate about the possible without any tractability to the actual—but rather so as to understand how the grammar of language and experience can be transformed beyond its existing local constraints.

The sense in which I refer to forms of life here is one informed by the same term in Wittgenstein’s late philosophical work. In what follows, I will try to bridge some connections between his notion of forms of life—an account of the way in which language and culture develops and might be transformed through social intercourse, and the idea of genus-being concepts as developed by Marx. What Wittgenstein means when referring to “forms of life” has been the subject of much critical scrutiny and debate. I will avoid going into a lengthy discussion and review of the literature here, instead opting to simply outline some basic features and describe what is particularly valuable about them for our purposes. An especially important point to disambiguate is that when Wittgenstein invokes the idea of a “form of life”, he both means something that gives structure to language and experience, and something which is at the same time negotiable and malleable under certain specific conditions. Wittgenstein is sometimes dismissed as a conservative thinker and a political quietist*, a charge which—whilst not without warrant—can be contested in favour of a more radical interpretation. Wittgenstein’s notion of forms of life is that they are neither inertial and static as structural foundations of language and experience, nor are they arbitrary and transient. Wittgenstein’s intricate exposition of grammatical propositions underlines the sense in which the space of the actual is something entrenched, both logically

* McDowell offers a view that says Quietism is a fair charge but suggests that this doesn’t amount to a position that eschews philosophical work, see McDowell, J., 2009. Wittgensteinian “QUIETISM.” Common Knowledge 15, 365–372. <https://doi.org/10.1215/0961754X-2009-018>. On the broader debate around whether Wittgenstein can be classed as a political conservative, see Vinten, R., 2020. Wittgenstein and the social sciences: action, ideology and justice, Anthem studies in Wittgenstein. New York: Anthem Press, pp. 69–86.

and sociologically, and at the same time capable of being transformed.

We might say then that the form of life is a theoretical construct which allows us to both think about what is actual and at the same time what is possible, what is and what could otherwise be. However, Wittgenstein's forms of life analysis is actually far more sophisticated than this. Whilst we can talk about *possible* forms of life in a very abstract sense, our ability to even imagine these possible forms is for the most part constrained by the limits of our language which is itself structured by our *actual* form of life. When we speak about the actual form of life however, we don't just mean that the form of life is a set of empirical or concrete propositions or truth statements. Grammatical propositions in a sense contain all the possibilities that obtain within a given order of things, even if they are unrealised. Wittgenstein's thesis about grammatical propositions is not quite that they are static and fixed from the outset, but they also cannot be seen to develop from a position that is outside of the existing grammar that makes up the edifice of a language. He writes:

“‘But language can expand’— Certainly; but if this word ‘expand’ has a sense here, then I know *already* what I mean by it. I must be able to specify how I imagine such an expansion. And what I can't think, I can't now express or even hint at. And in *this* case the word ‘now’ means: ‘in this calculus’ or ‘if the words are used according to *these* grammatical rules’”^{*}

^{*} Williams, M., 2010. Blind obedience: paradox and learning in the later Wittgenstein. London: Routledge, pp. 20–23.

For Wittgenstein, the meaning of words and propositions is not relative in the first instance to their formal truth value, but rather, we are initiated into language through what Meredith Williams has termed ‘alternative-blind’ forms of certainty^{*}. We begin with what is obvious, and it is only at the point where—by we have become competent in using a language that we can begin to question or doubt some of the bedrock practices which initiate us into a language as novice users. What is important here is that the very conditions of our possible experience as thinking beings is predicated on the fact that we inhabit a form of life. We cannot make any kind of logical formal inference without first being able to make material inferences^{*} which are intelligible directly within the context of lived, practical experience. The Wittgensteinian picture of language is thus grounded first and foremost in what people do, and assumes that we do things in a way that does not depend on having an explanation in the first instance for why we must or should do them. In fact, the explanation is something that only follows later, allowing us to call into question the certainties which initially grounded our language and practical activity. To say that the material inference comes first, and the logical one follows, is not to denigrate the importance of logical inferences to the development of human consciousness and activity. At the same time, it is to understand the correct order of the socialisation process. To connect this point back to the questions I’ve already raised about the traditional political subject: the point here is to recognise that

^{*} Wittgenstein, L., 2004. Notebooks 1914 — 1916, 2nd ed. Oxford: Blackwell, p. 114.

^{*} A more detailed description of material inferences can be found in (Brandon, R., 2008. Between saying and doing: towards an analytic pragmatism. Oxford University Press, pp. 44–48, pp. 103–109.) and (Williams, M., 2010. Blind obedience: paradox and learning in the later Wittgenstein. London: Routledge, pp. 45–47).

our very experience of political life is essentially constituted by the same linguistic and practical assumptions. The ways we engage in or think about political life and sociality ultimately depend upon the very certainties of our experience from which it is a difficult analytical and practical task to extricate ourselves. The kind of shift we are considering here is one that involves an alienation from the very forms of certainty which ground our current language and experience. It is not enough to *say* that we reject the traditional forms of sociality and political subjectivity, but rather we must begin to imagine a set of practices and methodologies which instigate such a process of alienating ourselves from entrenched forms which guide language, thought, and practical activity.

Thus, when we are talking about bedrock practices and forms of life, it is important to also consider these in a political dimension. To recapitulate, for Wittgenstein our initiation into a language depends upon our inhabiting the very form of life which makes such a language possible. The form of life is the very structure of intelligibility which provides the foundation for the meaning or sense of language propositions. Such propositions do not find their sense in the logical inferences which can nevertheless be constructed from them, but in the material inferences which make up the very activity that characterises the form of life, an activity which is indelibly social. The implication here is that for a language-using species, the form of life is indistinguishable from the very idea of life itself*, and that when we speak about forms of life what we are really doing is making explicit the formal

* Kishik, D., 2008. Wittgenstein's Form of Life, *Continuum studies in British philosophy*. London; New York: Continuum, pp. 18-19, 48-50, 78.

structure of life, rendering it apt for philosophical and practical reflection and modification. This capacity to abstract forms of life, rather than to assert a form of life as substantive, irrefragable, and given, is also what attests to their in-principle revisability. It opens up a space within which to think through the mutability of historical forms of life—the fact that different historical epochs operate not only according to a radically different belief structure to ours, but also a different grammar that subtends this structure. At the same time, this allows us to think politically about how such forms can be negated and transformed because they exhibit this aspect of contingency.

Although it can be difficult to divine what political ambitions—if any—Wittgenstein actually held or whether he understood his thesis on language and forms of life in such terms, our transcription of it here into a set of eminently political concerns bears some interesting similarities to Marx's early writings on human genus life. Marx's theory of alienation is developed out of a reading of Hegel's teleological account of judgment, one which grounds the possibility of self-consciousness in an idea of species or genus consciousness. For both Hegel and Marx, the idea of genus life (*Gattungswesen*) provides the grounding for the objective context for the universality of judgment—in other words, the ground against which conceptual judging activity is meaningful and intelligible. When Marx takes up this idea in developing his theory of alienation, its most significant function is to make the idea of alienation or estrangement coherent by indicating what capitalist forms of production alienate their proletarian-producers *from*. In

Marx's theory, the alienation of labour is an alienation of individuals from their genus life. Importantly for Marx, and indeed for Hegel, the idea of genus life is not an essentialist notion, and we must be very careful to emphasise this point. When Marx says that the de-alienation of labour would amount to a process of organising production in accordance with human species or genus needs or fulfilment criteria, he does not mean that these needs or objectives are somehow derived from a metaphysical essence of what the human being constitutively is. The claim of Marx is not to say "all humans naturally desire or need x, therefore production should be about the realisation of x". Rather, Marx's notion is a historical and dialectical one: human species needs emerge from certain requirements of survival, it is true, but more than this and in contradistinction to other nonhuman animals, human beings are capable of taking *life itself* as an object for conscious reflection. That is to say, human genus life is unique in the sense that we are capable of asking questions like: "what does it mean to live a meaningful life?", "what kinds of individual and social conditions might need to be satisfied in order for myself and others to feel happiness and fulfilment?", and "what should I, or indeed we, hope for?". Genus life should not be understood as an intellectual invention of Marx but rather something that he sees as already latent but obscured by the regime of capitalist production. Accordingly, the idea of struggle against alienation is to unmask the inadequacy of social production under capitalism to this underlying awareness of genus life which grounds our concepts and judgements about what is meaningful, important, valuable, worthwhile and so on. Of course Marx also accounts for the sense

in which the alienation of production in some sense distorts our view of how even these questions can be answered, but it is also worth noting that even those who justify capitalist production often do so with recourse to more objective validity beyond their own personal benefit. Thus we can say that even within the capitalist mode of production, the idea of genus life seems like a plausible grounding for objective normative judgments.

The kind of productive activity which would correspond in a more positive sense to a reflection upon the needs and objectives of genus life is referred to by Marx as *free conscious activity**. Such activity entails forms of production and social production which reflect consciously determined criteria of human satisfaction, need, and flourishing, rather than the extraction of surplus value for profit. By contrast, Marx's theory of alienation under capitalism stipulates that the production of proletarian individuals confronts them as something alien, and subverts this capacity to determine production according to free conscious activity. Whereas free conscious activity reflects the unique ability of human agents to produce according to a set of aims and objectives arrived at by a process of conscious reflection*, alienated labour under capitalism is a humiliation and a mortification of the worker, one in which the effects of their own labour confronts them as something external and reduced to the function of *mere* survival*. This situation arises under such conditions because the

* Marx, K., 2000. Theses on Feuerbach, in: McLellan, D. (Ed.), *Selected Writings*. Oxford University Press, pp. 99. and Marx, K., 2000. *Economic and Philosophical Manuscripts*, in: McLellan, D. (Ed.), *Selected Writings*. Oxford University Press, pp. 227.

* Marx, K., 2000. Theses on Feuerbach, in: McLellan, D. (Ed.), *Selected Writings*. Oxford University Press, pp. 90.

* Ibid, p. 128.

worker sells their labour only in order to satisfy subsistence needs. The prospect of reflecting upon the real value of the production one engages in is foreclosed and thus the forms of labour that are possible for the worker under capitalist social arrangements are only those with which they cannot identify their own will or volition. In other words, there is no greater *social* realisation for labour such as the collective attempt to satisfy consciously articulated human needs and objectives.

Contrary to some critical readings, Marx's claim about human life as genus life—one whereby the objectivity of certain needs and objectives is grounded on the idea that these represent and articulate the needs of human genus-beings—is not a prelapsarian claim about an idyllic human life before the advent of capitalism. Nor is it, as I've already suggested, an essentialist idea which bases its claims for such objective grounding on a stable image of what the human being is. Thus, although the idea of de-alienation seems to imply the return to a state before such an alienation occurred, this need not be presupposed as something historically prior nor as some conclusive and time-general idea of the human being in a state of natural harmony. It is the very idea of alienation itself which conceptually presupposes the possibility of de-alienation. Moreover the de-alienated state of production is not fixed for Marx but rather something which develops and is articulated by the unfettered social production that takes place within human societies, as well as the dialectical *process* of conscious reflection and determinate negation of that production. This idea of a process is key. It indicates that self-consciousness is bound up with and develops in relation

to a consciousness of oneself as a member of a genus, as participating in genus life. This means that the very way in which we judge and act in the world— even under conditions of solitude, is meaningful and intelligible with respect to a form of life characterised by our belonging to the human genus. But crucially a naturalistic picture of human genus life must also include the dynamic aspect of self-consciousness, which entails not a static notion of what the needs and telos of such life is but one which constantly changes and shifts under various conditions. For Hegel, and this idea is also informative for Marx, the idea of genus life exists as a dialectical tension between the constraints of human beings as living and thus finite beings, and the in-principle unconstrained activity of consciousness or reason*. In such a picture, the actual content of what

* Ng, K., 2020. Hegel's concept of life: self-consciousness, freedom, logic. Oxford University Press, pp. 107-110.

genus life entails is anything but fixed, rather it is something that is expressed by the very activity that human beings engage in. A great example of this is to think about how individual social consciousness develops according to the development of modern medicine and the radical extension of human life expectancy. As such constraints upon the biological parameters change, so too does our understanding of ourselves as a genus or species, and indeed what is thinkable or what forms of action are possible.

This development of genus life and consciousness need not be apprehended in the form of explicit propositions. Indeed, the sense in which it is undergirded precisely by material inferences already vindicates the descriptive account of language and forms of life proffered by Wittgenstein. Moreover, the

point of all of this for Marx is not merely to describe the development of genus consciousness but to put forward a political project to bring things more intentionally under the ambit of free conscious activity by engaging in de-alienated forms of production. This is why when Marx speaks about production, what he generally has in mind is not limited to making objects or things; such an idea of production is one undoubtedly inherited from the deeply entrenched forms of life and practice that dominate a society organised around commodity production. Rather, for Marx, production needs to be understood as both the production of objects that correspond to needs, as well as something which he calls *social production*, the production of the forms of social intercourse or sociality themselves*. That is to

* Negt, O. & Kluge, A., 1993. *Public sphere and experience: toward an analysis of the bourgeois and proletarian public sphere*, Theory and history of literature. University of Minnesota Press, p. 8.

here is not the physical objects a society produces or the services it provides—although to be sure he is interested in these things as they represent a certain use value too—but rather more specifically with the production of sociality itself which creates adequate preconditions for the

satisfaction of human needs, desires, and objectives. When we think back to the previous example about the development of modern medicine, the idea here is that mode of production is more explicitly catered towards the reproduction of human genus life, a point which bears upon both what is created to satisfy extant needs and ambitions as well as what is created to produce the conditions under which further needs and objectives can be articulated and made intelligible, not only ideally but concretely and in a material social form. Thus, when Marx talks about de-alienated production as free

conscious activity, what he does not mean are forms of libertarian freedom to act and behave at random volition. He is better understood to mean freedom in the sense to collectively determine the adequate social conditions for common flourishing as a species, a project to develop the social conditions under which such forms of activity and its further development can take place.

I've already suggested that what Marx and Wittgenstein both mean by life here has some striking similarities in a descriptive sense—albeit similar conclusions which are arrived upon by very different routes. What the Wittgensteinian notion of forms of life further adds to the Marxian account is an explanation of how such forms of life provide the foundation for language and thought, their bedrock practices and the forms of certainty which uphold them. At the same time the linguistic account gives us a more precise idea of how such forms are capable of being alienated via an understanding of their underlying grammatical propositions. The explanation of forms of life that Wittgenstein argues structure language and by extension human experience and activity are in many ways compatible with the forms of production and social production which Marx analyses as the basic structure of human societies and the objective genus life grounding that makes these intelligible as human practices. We can see the value of Wittgenstein's account as a kind of structural blueprint for unmasking the forms of certainty and the grammatical structures that commodity-production societies institute within the very economies of thought and action of their members. The form of life we inhabit is, in other words, indelibly constituted by forms of experience which understand

the basic operations of production, as well as human social relations, in terms of commodity production and exchange. Whilst it is one thing to unmask such facts intellectually, it is quite another to disabuse the very sense in which they inflect thought and practice. The very deep entrenchment of capitalist logic into the form of life for most human societies has led some to proclaim the impossibility of even imagining or struggling for a life outside of its terms. The hard version of a real-subsumption thesis, one which stipulates that human beings have no real freedom to even think or act outside of the conditions that capitalist logic imposes upon us, makes such a claim*. On the other hand,

* Camatte, J., 1988. *Capital and Community: The Results of the Immediate Process of Production and the Economic Work of Marx*. London: Unpopular Books, pp. 46-74.

a weaker version of the real subsumption thesis recognises that whilst this logic is indeed deeply ingrained in the very forms of thought and action that make up human sociality, it is not intractably so, and in fact it is rather sustained by a kind of unwitting or involuntary participation in such social forms.

To return this point to Wittgenstein, it is an important observation of his that forms of life are not static but dynamic, but at the same time that forms of life do provide the bedrock for our language, the basis upon which it is structured at all. What is of greatest value in Wittgenstein's thesis here is that the non-inertial nature of the form of life, even as it provides us with the necessary structure for language, can be transformed in certain ways.

More specifically, Wittgenstein postulates that both empirical and grammatical propositions make up the structure of our language. Whereas the former of these are fairly straightforward propositions

which account for the actual picture of the world we have in our representations of it, the latter account for how we formulate our more structural and normative ordering of these representations*. It is important to

* Williams, M., 2010. *Blind obedience: paradox and learning in the later Wittgenstein*. London: Routledge, pp. 182-183, 226-266.

point out that empirical propositions do not really make sense without the inclusion of such grammatical propositions which provide the underlying norms and ordering which make them intelligible.

For Wittgenstein, the process through which the very bedrock of a language is transformed is one whereby we can selectively modify the grammatical propositions undergirding the content of empirical propositions. So, when we speak about the revolutionary or emancipatory sense of Wittgenstein's thesis here, we can understand it to address the normative and structural encroachments of capitalist logic into the forms of thought and practice, as well as the very representational content of experience which these beget. We can combine this with the kind of practical project which Marx's thesis of alienation recommends: the project must begin in some sense with a concerted effort to disabuse the forms of certainty which are deeply entrenched and form the bedrock of our very forms of life which make language and experience possible. These forms of life are necessary in their formal dimension: that is— it is impossible to imagine a language or indeed the idea of life at all without understanding that that life must have a form—but contingent in the sense that what the actual content of such a form of life must be is something negotiable and revisable under certain conditions.

Equally, Wittgenstein's thesis is compatible with a more revolutionary and utopian meaning of Marx's idea of free conscious activity and de-alienated labour. It was important to stress before that this notion was not based on a static or essentialist idea about what matters to human beings, what they essentially want or need as something given from outside of the dialectical processes of conscious reflection. When it comes to describing how such a process of conscious deliberation and dialectical reflection might actually happen, I believe that Wittgenstein's thesis about forms of life can help us to fill in the gaps. What we ultimately share as a genus, what composes us in some sense is the intrinsically public nature of language itself, and this can help us to articulate some of the 'meat' or substance of what Marx is speaking of when he refers to a procedural development of genus-being consciousness. Language and the sets of agreements which make reliable communication possible should be understood as the medium through which this articulation of consciousness takes place. The very fact that it is impossible to imagine a private language underscores how language might also be seen as the space of contestation for the dialectical articulation and development of what we earlier referred to as the objectives and needs of dynamic human societies. Both Wittgenstein and Marx in their own way converge upon the same idea that life itself must be taken as the object for conscious reflection, that it entails a parsing of what is given and taken to be certain from what is actually possible and desirable, what can be articulated as a shared goal. A de-alienated human social production would entail a set of normative articulations about what forms of life we *ought* to have,

how our current way of seeing things ought to be transformed and updated in accordance with a set of problems or requirements we have managed to articulate and communicate.

We should be careful here: what Wittgensteinian analysis of grammatical propositions affords us is not the substantive content of new grammatical propositions or the forms of life they enable. It is ultimately a theoretical and analytical edifice, one that allows us to apprehend the grammatical proposition as an object of conscious reflection but which does not in and of itself recommend specific forms of action which can bring about their transformation. At the same time, this analysis is useful insofar as it provides us with criteria for evaluating the level at which such transformations need to take place. In combination with Marx's ideas of free conscious activity and social production, it makes clear precisely why and how such transformations need to take place in the very grammatical structures of language and sociality. The idea of Marx and Engels that communism is the *real* movement rather than an ideal movement to abolish the present state of things* emphasises the fact that this transformation is more than a mere aspect shift, something which comes about as a result of the change in our ideas. It is something that must be subtended by a material transformation of the concrete social relations. At the same time, we can have an idea about such a material transformation in the form of an empirical proposition which is not sedimented into the self-conscious reflection of human agents because it is incompatible with the grammatical structure of the

* Marx, K., 2000. Economic and Philosophical Manuscripts, in: McLellan, D. (Ed.), Selected Writings. Oxford University Press, p. 187.

world which might make it intelligible. This emphasises the importance of the Wittgensteinian inspiration here, to apprehend things in terms of forms of life.

Bringing these points back to our initial question about the development of a planetary politics and sociality, we can perhaps suggest here now that such a project is one of reconfiguring the grammar of our language and experience such that it adequately reflects the enabling conditions and constraints of our planetary reality, as well as a political project of realising de-alienated social production in such a way that corresponds to the articulation of human needs and desires in relation to the conditions of planetary complexity with which we are faced. It is in no small sense a relevant aspect of the problem of confronting planetary complexity that we remain entrenched in forms of life that are dominated by capitalist and statist logic, down to the very foundational level of the bedrock upon which our language and practices are scaffolded. If we are to imagine the development of political life and sociality which are adequate to these conditions of planetary complexity, the point is not to imagine a utopian image of how such a society and politics would function from our current point of view, but rather to address the sense in which the preconditions for such a project might be realised. This is what both Wittgenstein's forms of life and their mutability, as well as Marx's genus life account and its ambition for de-estrangement of labour provide us. To address the planetary from our present vantage point suggests first of all a reckoning with the very structural limitations which make life at such a scale unintelligible. These need not in any sense be thought of as biological

limitations. After all, never has it really been the case in the history of human civilisation that one individual was capable of rendering intelligible all the possibly relevant phenomena and their relations pertaining to the political and social concerns of the society in which they were living. Nevertheless, the traditional political subject adequate to those smaller, less complex worlds had—to a greater or lesser extent and to the extent that they were politically enfranchised at all—a grammar and a set of practices that could navigate their world socially and politically. The idea here to address political life and sociality at planetary scale is to think through what preconditions would need to be satisfied in order to make such navigation possible for contemporary human beings. It is ultimately to reconfigure political subjectivity through a reconfiguration of the very forms of life and forms of productive activity such that they would be adequate to a social and political reality of planetary scale.

We should finally consider here the constitution of a planetary politics and sociality in terms of the socio-legal norms and political infrastructures that govern the contemporary logic of nation states and international relations. What we have described thus far is a kind of grammar of human subjectivity, or, how the subject is constituted intersubjectively via both normative and linguistic processes. On the other hand, we have yet to consider how political entities themselves emerge and adhere to their own grammar. An additionally important layer of analysis that must be considered when we talk about a planetary sociality and politics is therefore to address the question of what the *polis* itself is, how it is historically and structurally

constituted, and what a transformation of this mode of *political* life might mean. Carl Schmitt's conception of *nomos* remains the most important point of reference for this discussion. Schmitt's account of *nomos* is important because it is rigorously theorised as a political and legal genealogy which accounts for the ordering principle of a society without describing it as *mere* tradition*. In a sense comparable to the way in which

* *ibid.* we apprehend the form of life or genus life as objects of conscious reflection, the apprehension of the *nomos* as such an object of reflection articulates both the sense in which it is a necessary structuring feature of political life and at the same time historically contingent in its particular forms. Stated otherwise, we might say that the *nomos* describes the *grammar* of a given social order. We can understand political communities as necessarily structured by a *nomos*, but the actual propositional content of the *nomos* is something we only apprehend *a posteriori* precisely because the very thing *nomos* describes is a structuring edifice. I want to suggest, however, that the connection between *nomos* and what we've already discussed above go beyond these formal resemblances. For instance, we can understand the existence and development of human social order, as well as the specific ways in which it reflects needs, goals, and teleological objectives as an expression of what Marx is driving at when he speaks about human genus life. That is to say that the *nomos* is not an arbitrary or politically neutral grammar of political community, but rather one whose specific form reflects some normative or political content both in the function it serves and the ways in which it retrospectively justifies itself. At the same time, this point can be connected to political and social

dimensions of a form of life through which language is possible, as we discussed in relation to Wittgenstein.

The nomological order of a given society is founded upon three essential components which for Schmitt are roughly chronologically ordered and make up what he calls the "primal drama" through which the political community is established. These three phases are: appropriation (*Nehmen*), distribution (*Teilen*), and production or pasturage (*Weiden*)*. In the first

instance, *nomos* is established through an appropriation of land. In the second instance, it is reinforced and consolidated through the drawing of boundaries and partitioning of this land, its distribution into the hands of a select number of owners. Finally, the modes of production of this political community are established. We may ask whether the establishment of land as property happens in earnest during the first or second stages of this story, and this seems important insofar as property relations and rights of ownership account for a crucial aspect of how all political communities are composed. My contention here is that the distinction between the first and second stages of *Nehmen* and *Teilen* both in a sense account for the institution of property, albeit at different scales and levels of decomposition. The very distinction between private and public property only takes place during the second stage of distribution, but we should also note that in a sense all territory is also restricted or private since the initial moment of appropriation is exclusionary of those outside of the political community. A society is, of course, also largely determined according to the kinds of things it does to reproduce itself,

* Schmitt, C., 2006. The *nomos* of the earth in the international law of the *Jus Publicum Europaeum*, First paperback edition. ed. New York: Telos Press, pp. 324–26.

and so this third dimension of production or pasturage obviously has an important relationship to our earlier discussion on social production. When we speak about the dominant production of a society, we must consider both the concrete nature of that production, and also the ways in which this comes to be decided; in other words, who controls the means of production. It is extremely important to emphasise that these two questions are intrinsically linked.

The nomos describes the undergirding and implicit law of a sovereign in a way that endures beyond the reign of any particular authoritative figure or government, or even in some cases mode of governance. This is an important sense in which we must treat the nomos as “grammatical”. The nomos is not a set of policy programmes or edicts of a ruler, indeed the very basis upon which the political legitimacy of rulers is conferred is in their fidelity to the nomos. This is not to treat the nomos as a static phenomenon, but rather points to the fact that the very means by which a nomos is dynamic is via indirect rather than direct modifications. At the same time, this points to the fact that the nomos is only ever transformed in a limited sense, that the question of a revolutionary transformation in the fullest sense of the term is not a transformation of the nomos but rather the establishment of a new nomos. The important consideration that arises from Schmitt’s analysis is whether it is even possible to establish a new nomos, given that nomos is something historically and materially determined, and in this sense its conceptual apprehension—though a critical moment in any attempt to overcome the nomological order of a society—is not sufficient for

its overcoming. The genealogical and linear description of nomos is important here, since it articulates the very sense in which our nomological understanding of society permits no messianic redemption of history nor an ideal of justice which would restore things to a historically prior moment for their reconsideration. Thus, there is something of a sequent character to the nomos such that it can be likened to the idea of a path-dependency. Indeed this idea of path-dependency accounts for the way in which a nomological order simultaneously exhibits traits of political tradition, but also cannot be fully captured by it. The element of *dependency* articulates both the sense in which the nomological order will not merely fall into abeyance even as societies modernise and progress in other respects, and at the same time illustrates precisely which continuous features of a social order are upheld to the detriment of the ideals of political consciousness. Our earlier concern about a reading of Marx’s theory of de-alienated production as something akin to a prelapsarian vision puts these concerns into sharp relief: the point for Marx cannot be that we develop our consciousness of human genus life from the standpoint of an *essential* human condition that stands outside of its own historical determination. This should not be taken for a refutation of the very idea of de-alienated production but it should on the other hand give us some idea of the stakes and what is required for any political project attempting to realise it. Alongside the institutional and political realities of a nomos, realities which account for the basic form of political community as well as both property relations and relations of production within that community, we also must consider the concrete psychological and social dimensions that develop

out of these legal and political ones. Thus, the establishment of a new *nomos* is not only constrained by the fact that the very logic of political order would need to be overturned and overcome, but also that a vestigial subject consciousness would likely remain even if we managed to achieve such things.

This is especially true when we consider how much the development of a political community arises not only due to the collective interest and set of social needs that political organisation caters to, but also the more existential ones such as the basic question of survival. The existence of organised society is as much a response to existential threats like famine, drought, or any other natural or non-natural disaster as it is to the more positive sense in which human life flourishes when labour and resources are collectivised. To this end, I want to highlight that a critically important feature of *nomos* that we must contend with is its function as a mechanism for short-circuiting problems of undecidability, uncertainty, and contingency. These types of problems are the very ones which constitute politics in the sense of how a society sustains and reproduces itself. They are also problems that pertain to how a society organises itself and its social production, how it orients itself in both a positive and negative sense. This points us back towards the navigational idiom with which we began. There is simultaneously a theoretical openness to the ways in which we *can* collectively navigate contingency, and at the same time a set of deeply entrenched dependencies about the way in which we currently *do*. Most importantly of all, to pose the very question of how an alternative political heuristic for navigation is possible elicits further

contingencies insofar as the real consequences of such a question would likely amount to political instability. Thus, there can seem to be a circular problem insofar as the ramifications of taking the question of *nomos* as an object of reflection seriously seems to produce the very kind of situation whereby we are likely to fall back upon our deeply ingrained grammar of navigation.

This is important insofar as a significant challenge that faces the real movement to establish alternative political configurations is that extant ones derive their legitimacy from the fact that they characterise the bedrock of political agency. Crucially, the *nomos* doesn't offer any justification for itself, and at the same time it is relied upon as though it had a transcendental structure through which its order is derived. Just as forms of life cannot be treated as fungible such that they can be installed and uninstalled like software, so too is the *nomos* entrenched because it is a structuring feature, and thus an argument as to why it may be a maladaptive or bad structuring feature of political subjectivity is not sufficient here. As with the blind obedience that characterises the initiation into language use, the *nomos* structures and grounds political activity in ways which are initially alternative-blind. In fact, the very planetary reality which I have been describing in this essay points to ways in which the prevailing *nomos* of extant social configurations seems ill-equipped to address the challenges and tends to reproduce a regressive instinct. The real difficulty here, however, is that the *nomos* cannot be directly socially evaluated in terms of this inadequacy because it accounts for a grammatical rather than an empirical feature of social order. Of course, we can—as I have just done—theoretically

evaluate it, but this is a very different process and one which only points to more problems in terms of its concrete realisation. Once we understand that *nomos* is in many ways a blunt instrument through which cases of contingency and uncertainty are often historically settled, the question becomes just as much about how we can address the historical and social functions it fulfils as well as the very practical questions of what it concretely implies. *Nomos*, it must be understood, prescribes the certainty of legal and political institutions and norms, not the normative necessity of those which currently exist. Indeed, it is far from irrelevant to consider the latent conservatism of both Wittgenstein and Schmitt in this respect—much as the claim concerning the former is more contentious and seems to be more by implication than biographically justified. Interestingly, Schmitt's conservatism seems to stem from a form of whiggish liberalism which admits that historical appropriations cannot be undone, but the violence of any revolutionary transformation of society that must establish a new *nomos* via the tripartite schema outlined above would be violent beyond all moral justification.*

Thus, for Schmitt it is clear that the primal drama is an uncomfortable historical fact which must not be repeated. It goes without saying that this much is defended with further contestable beliefs about the rationality and stability of the world in the wake of this primal drama.

This final, brief excursion into the question of nomological order has been an attempt to illustrate the gordian knot in which we find ourselves entangled when we try to address the question of political and

social life at planetary scale. We began with a short description of the regressive and inadequate form of the nation state, as well as the political subject which arises from it. What I have tried to illustrate in this essay is just the sense in which that subject is grammatically constituted and reproduced. To say as much is neither to contend that the problem is an intractable one nor that our political agency is diminished by the very fact that it is in some important ways constrained by the problem of the *nomos* as a prevailing political grammar which develops in the form of a path dependency. To identify such structural dependencies is merely the first step towards overcoming them, but we should not be fooled into thinking that our theoretical and practical task here is merely one of articulating the planetary either. If I can be certain of one single conviction more than any other, it is that the planetary condition is already one in which we live, and that no binding normative necessity assures that human beings will develop a politics adequate to it. It is for this reason that I have chosen to address the question of *nomos* and forms of life in this essay, as what must be overcome in their substantive, descriptive dimensions, and at the same time as what we cannot do without as formal, structural features of political life and sociality respectively. In more direct connection to both the problems and affordances of the planetary reality with which we are faced, the point of this analysis has also been in some sense to show how the shape of future Earth may be either defined in terms of the path dependencies which extant forms of life and nomological orderings imply, or according to some other form of life and set of political and social practices more adequate to the increasingly complex realities which face us. This latter, more

* Schmitt, C., 2006. *The nomos of the earth in the international law of the Jus Publicum Europaeum*, First paperback edition. ed. New York: Telos Press, p. 333, pp. 353-355.

optimistic proposal to determinately shape the future of our world through the development of theoretical and practical consciousness is where I recognise the continuing relevance and significance of Marx's genus life concepts. On the one hand, such a conception has a compositional effect adequate to the planetary, insofar as all forms of sapient intelligence regardless of national or political identity qualify for membership in this category. At the same time, it is important that this category is defined by its very resistance to an essentialist identification, such that we might come to see the very question of how we navigate the planetary condition not as a rehearsal of the given forms of political agency which are claimed in a more limited and exclusionary sense in the name of a humanism, but rather, that such a question be addressed through the very dialectic of genus life, a struggle between the variegated development of consciousness on the one hand, and the common constraints of human finitude on the other.

Digital Arts Platform is a research group and studio at the Academy of Fine Arts and Design in Bratislava. The aim of the platform is to assess, assemble, disassemble, hack, and theorize digital tools as devices of art making, and as vehicles for possible social/planetary transformation. Current members consist of Matej Novotný, information scientist and data visualization expert, Zuzana Husarová, poet and theoretician of digital media, András Cséfalvay, editor of the current volume.

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