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The Earth is an Art, Like Everything Else

In cosmic reverie, nothing is inert, neither the world nor the dreamer; everything lives with a secret life, and so everything speaks sincerely. The poet listens and repeats. The voice of the poet is a voice of the world.

—Gaston Bachelard¹

1. Despondence & detachment

The title of this contribution, I have drawn from Sylvia Plath's "Lady Lazarus". A poem of the early 1960s, it was written just prior to its author taking her own life at the age of thirty, finally succumbing to her powerful and irredeemable cosmology of art-as-life and death-as-art. Michael Taussig, likewise inspired by Plath's revelations, finds in them a prescription for pages, places and spaces where "things and death criss-cross [...] making amends for that world we have lost".² The poem "Lady Lazarus" presents a litany of the patriarchal and societal barbarity also known as civilisation; a memory of the world that depletes, and then evacuates the future, justifiably if lamentably. The malfeasance it enunciates is also a kind of abjection, what Frédéric Neyrat calls an "adhesion to nowhere", that fashions a romantic "out-of-place barred from all real human and ecological situations".³ Plath attunes us to how we relate to a personal, human and worldly finitude, to which we are bound, and owe ourselves. Artistic attunement like this is in one sense an opening out, a

1 Gaston Bachelard, *La poétique de la rêverie* (Paris: PUF, 1960). Quote translated by the author.

2 Michael Taussig, "Dying is an Art, Like Everything Else", in: *Critical Inquiry*, 28:1 (2001), 305–316.

3 Frédéric Neyrat, *Atopias: manifesto for a radical existentialism* (New York: Fordham University Press, 2017).

becoming-awareness of such finitude. In another sense, it is also and evidently tragical and fatal, as it was for the artist, icon, woman and human life we call “Sylvia Plath”. Her pronouncement that “dying is an art, like everything else” highlights a fundamental ambiguity of creativity in practice, as both expressive liberation and a potentially violent detachment from and reconstitution of what already exists.⁴ Must something always die, before art is born? Plath’s despondent prognosis condemns real human and ecological situations, conscripting these variegated lifeworlds under the terminal term of art.

Our current means of extracting and industrialising earthly materials “subject the past to the demands of the future”,⁵ yet at the same time, greater importance is ascribed to the roles and responsibilities of art and creativity, as saviour and redeemer. How do we compose suitable imaginings of ‘our’ planet, as we recognise their importance in identifying, understanding and addressing apparent crises that regularly default to “earth magnitude”?⁶ Magical, natural, spirited, mechanic, mediatic, stochastic, teleologic, parental, indifferent, finite—what images and metaphors inspire our understandings of the Earth that ‘we’ inhabit and that inhabits us? Which of these understandings should we choose to pay attention to, and so make grow, and which do we attempt to diminish, ignore or jettison? Such questions directly challenges the traditions, assumptions, scales and responsibilities not just of artists and the arts, but of the creativity and inventiveness that are their supposed power and purview.

To understate the importance of the arts in the construction of planetary relations is to downplay the profound cultural importance of the material conditions that allow for thought and creativity. The stratosphere, the climate, cycles of weather and water, photosynthesis and the biosphere, amongst other entities, determine the raw materials of creative practices. These are “cultural–physical–environmental system[s]—involving both the physical objects concerned, but also the relationships and attachments between them and humans”.⁷ And “like ecosystems and the climate, cultural goods are fundamentally common goods”

4 Sylvia Plath, *Ariel* (The restored edition) (New York: Faber & Faber, 2010).

5 Siegfried Zielinski, “Origin ≠ Future. Prospective Archaeology”, 2019. See in this volume.

6 Douglas Kahn, *Earth Sound Earth Signal: Energies and Earth Magnitude in the Arts* (Berkeley: University of California Press, 2013).

7 Duncan P. McLaren, “In a Broken World: Towards an Ethics of Repair in the Anthropocene”, in: *The Anthropocene Review* 5:2 (2018), 136–154.

for which mutual responsibility and decision making have become a newly urgent problems for collective consciousnesses.⁸ Art *can* propose imaginaries which impel what has, can and should be remembered from the past, as well as what can and should be created in the present. Human creativity, constitutive of Arendt’s *vita activa*, is an “activity which corresponds to the biological processes of the human body, whose spontaneous growth, metabolism, and eventual decay are bound to the vital necessities produced and fed into the life process by labour”.⁹

Artistic work, like other labours, is guided by determined sets of ethics, filtered and fashioned by social contexts and the current, general condition of media and techno-scientific saturation. Modernist delusions of *ex nihilo* creation and disappeared externalities have allowed art and other activities to build contradictory constructions of environments as both supply depots for materiality and resources and as *oikoi*—“homes”—in which we live. “Under these circumstances, it becomes possible to understand why many have thought art to be a domain of evil”, writes Timothy Morton.¹⁰ Yet planetary-scale imaginaries necessarily transcend individual experience, and so it seems we *must* compose and recompose them through the arts of projection, figuration and representation afforded by instrumentation and media.

Recognising the difficult ecological truth that the catastrophe is already behind us, we would do better to subject the future to the demands of the past, and attempt to reconcile geological time with the proportions of human temporality. Each new figuration of Earth is a fleeting ‘view from nowhere’, a too-singular impression that proves difficult if not impossible to reconcile with the quotidian experience and perspectives of a planet that is increasingly overburdened by the activities of all but eight billion human lives. Current planetary imaginaries—wrought through metaphors like “home planet”, “Mother Earth” and “harmony with nature” as well as through satellite imagery, science journalism and the weather report—are ambiguous emblems, tensioned plays of distance and proximity, intimacy and alienation, of the sublime and the familiar. Imaginaries can highlight intervals of knowledge

8 Ibid.

9 Hannah Arendt, *The Human Condition* (Chicago: University of Chicago Press, 2013).

10 Timothy Morton, *Hyperobjects: Philosophy and Ecology after the End of the World* (Minneapolis: University of Minnesota Press, 2013).

and respectful opacities that evolve humility and caring deference, or they can drive the discourses that convert poetic unknowability and knowledge-for-its-own-sake into applied Big or Fast Science.¹¹ The science of Ecology, as an engaged observational stewardship of what it also studies,¹² at certain times and in certain places, transmutes into a less-concerned, data- and remote sensing-driven “Ecology of Chaos”.¹³ As a modernist knowledge practice, it can produce detached interiorities that, like certain modern art practices, adheres to nothing and so can clear-cut pathways toward large-scale remodelling of our *oikos* that rivals even the most avant-garde of artistic conceits: geoengineering.

Reflexive creativity can take place in the awareness of this partial-paradox—that depiction can always give way to equivocal and depleting accesses, and that what we stabilise as ‘media’ and ‘methods’ are often extractive and/or spurious.¹⁴ Critically-imaginative artistic practices must remain grounded in finitude, yet hopeful and engaged with other knowledge practices such as human and natural sciences, and technologies. How can such an art, as a knowledge practice, undertake caring critiques of how the Earth has been constructed and framed in particular ways? How can we best understand what these framings authorise by way of study, management, manipulation, passivity and/or negligence? Might we seek, as artists all, to disentangle planetary framings in ways that do not just make amends for a world we have already lost, but that also capture and navigate always present uncertainties and ambiguities? Artists, as amplifiers and articulators of human experiences of alterity, could fulfil their promise as both “irritant”¹⁵ and “antennae of the race”,¹⁶ negotiating and convening others around ecological catastrophes in the past, present and future. In such questioning and orientation lies the possibility of extra-disciplinary knowledge practices that adhere intimately to real human and ecological situations—an art that is not dying, unlike everything else.

11 Isabel Stengers, *Another Science is Possible: A Manifesto for Slow Science* (Medford, MA & Cambridge UK: Polity, 2018).

12 Rafe Sagarin & Anibal Pauchard, *Observation and Ecology: Broadening the Scope of Science to Understand a Complex World* (Washington: Island Press, 2012).

13 Donald Worster, “The Ecology of Order and Chaos”, in: *Environmental History Review* 14:1/2 (1990), 1–18.

14 Paul Feyerabend, *Against method* (London: Verso, 1993).

15 Niklas Luhmann, *Art as a Social System* (Palo Alto: Stanford University Press, 2000).

16 Ezra Pound, *Literary Essays of Ezra Pound* (Norfolk, CT: New Directions, 1968).

2. Optical Earth



| Postcards from Google Earth, 2010–ongoing, Clement Valla
Date of Satellite or Aerial Photos: 23/08/2016 ; Date of Screenshot: 23/01/2019

The sky ... seemed a great blue eye which was looking lovingly at the earth.

—Théophile Gautier¹⁷

Since Sputnik there is no Nature. Nature is an item contained in a man-made environment of satellites and information.

—Marshall McLuhan¹⁸

17 Théophile Gautier, cited in Gaston Bachelard, *The Poetics of Reverie* (Boston: Beacon Press, 1971).

18 Marshall McLuhan, *Culture is Our Business* (Eugene, OR: Wipf and Stock Publishers, 2015).

The earth seen as a medium would be an optical one, a composition of light.¹⁹ Its origins as an accretion from the rings of solar nebula that remained following the formation of the Sun, have given way to life-sustaining conditions principally because of how the Earth and its 'spheres' (lithos-, atmos-, ionos-, etc.) absorb, reflect and process light. Its most probable and eventual fate, in all but eight billion human years, is to be consumed by this same Sun, as this star enters its "red giant" phase and expands beyond Earth's orbit. All images on and of the earth are thereby waypoints, luminescent cross-sections, snapshots of a prodigious lifespan. The difference between planetary temporalities and media durations produces rifts as well as "resistance against the myths of progress that impose a limited context as the basis for understanding technological change."²⁰

The problem of knowledge "can be seen to be organised around the philosophical theme of proximity"²¹ Amongst the criteria of objectivity are that we get away from what we observe, out of or off of Earth, for example, in order to properly observe it. Only then can we see it as a whole and get the 'necessary distance' that we suppose gives a clearer view. Beginning with kites and balloons, it was photography that birthed the genre of aerial imagery—Gaspar Nadar, a portrait and still-life photographer, from his balloon "Le Géant" (The Giant) first visually sampling birds-eye views of Paris in 1858.²² Since that time, our vertical adventures have been out toward Earth's vanishing point, as a vanguard of both art and science. Since wartime aerial reconnaissance and Robert Goddard's 1920s scientific rocket-cameras, the imaginaries and visual expansions of technoscience have achieved and projected greater and greater objectivity-as-distance, often by powers of ten²³ and eventually in IMAX.²⁴

In 1972 *someone* aboard the Apollo 17 mission used Hasselblad medium format and Nikon 35mm cameras to snap timestamped visual samples of the whole Earth in full spin. (All three astronauts on the voyage apparently

19 Kate Maddalena, & Chris Russill, "Is the Earth an Optical Medium? An interview with Chris Russill", in: *International Journal of Communication* 10 (2016), 3186–3202.

20 Jussi Parikka, *Deep Times and Media Mines. General Ecology: The New Ecological Paradigm* (Minneapolis: University of Minnesota, 2017).

21 Avital Ronell, *The Telephone Book* (Lincoln, NE: University of Nebraska Press, 1989).

22 Harry Eyres, *Seeing Our Planet Whole* (Springer International Publishing, 2017).

23 Charles Eames & Ray Eames, "Powers of Ten" [Motion picture] (United States: IBM, 1977).

24 Bayley Silleck, "Cosmic Voyage" [IMAX Motion picture] (United States: Smithsonian National Air and Space Museum, 1996).

"kind of jokingly take credit for" the photo.²⁵) The Apollo 17 "Blue Marble" image, captured 'southside down' in the weightless space between Earth and its only moon, is most often shown inverted, in alignment with nordicentrist cartographic conventions. The public release of this image, campaigned for by an increasingly technologised, American countercultural elite,²⁶ was wanted for as an icon that would precipitate awareness of humanity's enclosure aboard "spaceship earth," Buckminster Fuller's image of containment that many hoped would usher in a revitalised awareness of planetary finitude. This "Whole Earth" image, also the subject of a field-opening exhibition at the *Haus der Kulturen der Welt* in Berlin in 2013,²⁷ has been much examined for its role in creating and supporting an optical imaginary of Earth that aligns with a flat, almost diagrammatic depiction of circumscribed interiority and closed circularity. Such an off-planet perspective, of a self-contained, disc-like embryonic eye—a living, closed-system Earth staring-blue back at us—is congruous with then-burgeoning feedback-driven interpretations of Earth ecology as a cybernetic system, including the now resurgent "living planet" Gaia hypothesis that Lovelock and Margulis developed in the 1970s.



| Still from *Good Morning Mr. Orwell*, 1984, Nam June Paik

25 Alexandra deBlas, "World Environment Day: Spaceship Earth" [online] (Radio National: <https://www.abc.net.au/radionational/programs/archived/earthbeat/world-environment-day-spaceship-earth/3646302> [last accessed Jul 2018]).

26 The 'Why haven't we seen a photograph of the whole Earth yet?' campaign was started by Stewart Brand in 1966. Stewart Brand, "Photography changes our relationship to our planet" (Smithsonian Photography Initiative: <http://click.si.edu/story.aspx>).

27 "The Whole Earth: California and the Disappearance of the Outside", exhibition and conference curated by Diedrich Diederichsen and Anselm Franke, April 26–July 7, 2013.

In contrast, we might turn to artist Nam June Paik's experiments with off-planet technologies begun in 1977 as part of Documenta 6 in Kassel. Here, the possibility of live satellite telecasts allowed for an optic rendering of Paik's conception of globality, as disjunctive and productive intersections of East and West. These durational "satellite installations"—"Good Morning Mr. Orwell" (1984), "Bye Bye Kipling" (1986) and "Wrap Around the World" (1988)—were wild and loosely scripted, disparate, disjointed, disjunctive. "Paik's transcultural satellite extravaganzas link different countries, spaces and times in often chaotic but entertaining collages of art and pop culture, the avant-garde and television."²⁸ Satellite transmission systems in these intercontinental pageants become connective tissue, collaging time and space into a meshwork global imaginary. Moving images of live performance on different continents, archival footage, banal 'dead air' and outright technical error all formed part of the picture. Although the cuts and juxtapositions of Nam June Paik's satellite routings create jarring overlays of cultural differences and individual identities, the overall perspective seems multiple as camera views switch and composite images jitter. Paik provides an "alternative route ... optically and ethically, an itinerary across alterity that acknowledges others and their faces."²⁹ These are works for satellite that employ technological networks in ways that undo any expectation of a contiguous totality. Similar are 21st century locative and media art practices like GPS drawing, or Clement Valla's "Postcards from Google Earth", in which glitches in off-planet earth-imaging systems are sought out and writ-large. The earth-eye spills over, crumbling inward, and systems incongruities, residing in the past, present *and* future, are allowed and made to reveal themselves.

A total of 4,857 satellites are currently orbiting Earth, of which 453 were launched into space in 2017 alone.³⁰ Increasingly, these satellites are put into orbit by private "microsatellite" companies, whose relatively diminutive-scale spacecraft can be deployed in large numbers, cheaply piggybacking on other launch vehicles. The stated mission of one such venture, Silicon

Valley-based Planet Labs, is "to image the entire Earth every day and make global change visible, accessible and actionable". ALE Co. Ltd. is another Japanese company that in 2018 opened for business to provide "artificial on-demand meteor showers". ALE's CEO, Lena Okajima, says she came up with the idea for the company while watching the Leonid meteor shower in 2001: "I knew back then that if I were to launch my own venture, it will be one that produces shooting stars on demand."³¹ The majority of these "New Space" enterprises, which see themselves as "disrupting" national-political monopolies of off-Earth commercialisation, do not promise synthetic meteoritic fireworks for on-planet observers. Most instead interest themselves in the production of real-time images of human activity—thousands of little eyes, staring-black back at Earth.

3. Harmonious Earth

I like to think
(it has to be!)
of a cybernetic ecology
where we are free of our labors
and joined back to nature,
returned to our mammal
brothers and sisters,
and all watched over
by machines of loving grace.

—Richard Brautigan³²

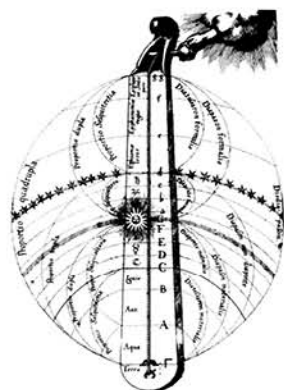
²⁸ Nam June Paik, "Good Morning Mr. Orwell" (n.d.): <https://www.eai.org/titles/good-morning-mr-orwell/ordering-fees>.

²⁹ Amy J. Elias & Christian Moraru (eds.), *The Planetary Turn: Relationality and Geoaesthetics in the Twenty-First Century* (Northwestern University Press, 2015).

³⁰ The official *Index of Objects Launched into Outer Space* is annually summarised by Pixalytics, a satellite and airborne data consultancy: <https://www.pixalytics.com/>

³¹ Alex Martin, "The Sky Is the Canvas: Tokyo Startup Looks to Launch World's First Artificial Meteor Shower", in: *Japan Times*, August 29, 2018: www.japantimes.co.jp/news/2018/08/29/business/

³² Richard Brautigan, "All watched over by machines of loving grace", in: *Tri Quarterly* 11 (1968), 194.



Divine or Celestial Monochord, from Robert Fludd's *Utriusque cosmi maioris scilicet et minoris metaphysica, physica atque technica historia* (1617)

The rotation and sphericity of our planet gives way to powerful imaginaries, and the diurnal and seasonal cycles we experience are a prime and primal experience of these.³³ Repeating, seemingly invariant, locked-in rhythms describe and inscribe relations that are highly affective, and unperceived, just as our own “bodily processes are cyclic.”³⁴ Cycles “embody an aesthetic necessity”³⁵ of depletion and renewal, as myth, metaphor—and music. Pythagoras’ suggestions of planetary harmonies and Kepler’s 1619 *Harmony of the World*, as well as that of Robert Fludd in this same period, inscribe cosmologies of celestial music, natural balance and ratio(nalism). *Musica universalis*, earlier heard by the Roman General in Cicero’s *The Dream of Scipio*, came to account as well for on-planet balances—between, for example, climatic belts (snow fields and deserts)—as well as for the political reconciliation of necessary violence and ideal peace in the construction of Empire. Cicero writes of a globalising impulse and musical epistemology of harmonising orchestration, as an overarching pattern of historical purpose that is gradually rendered less cacophonous, and more audible.³⁶

33 Mark Johnson, *The Body in the Mind. The Bodily Basis of Meaning, Imagination, and Reason* (Chicago: The University of Chicago Press, 1987).

34 Timothy Morton, *Ecology without Nature: Rethinking Environmental Aesthetics* (Cambridge, MA: Harvard University Press, 2007).

35 Stephen J. Gould, *Time’s Arrow, Time’s Cycle: Myth and Metaphor in the Discovery of Geological Time*, v. 2 (Cambridge, MA: Harvard University Press, 1987).

36 Geoffrey Kellow, “The Rise of Global Power and the Music of the Spheres: Philosophy in Cicero’s *De re publica*” in: *Enduring Empire: Ancient Lessons for Global Politics*, (eds.) David Tabachnick & Toivo Koivukoski (Toronto: University of Toronto Press, 2009).

The Aeolian harp, an early meteorological art-and-technology, gives an example of the instrumentalist drive to link up the planet, nature, creativity, artistry and harmony. Described and so propagated by Athanasius Kircher in his *Musurgia Universalis* (1650), the harp is a wooden box with strings stretched over a sounding board, to be “played by the wind” (named for Aeolus, the Greek god of the winds). As a techno-scientific engine of natural, musical magic, it posits the weather and environment on a par with human imagination. The wind is cast as a fundamental, pure potential, akin to how we now imagine “big data”, which, once filtered and amplified by technological intervention, is supposed to yield pattern and harmony. The Aeolian harp is, as such, a forerunner to many contemporary data sonification projects in both the arts³⁷ and sciences³⁸, each attempting to find hidden information through aural divination.

Bio-geological cycles also express the exchange of things like carbon, nitrogen, oxygen, rocks and water between earthly spheres as cyclical and harmonious. These cybernetic-ecological models structure our understanding of the earth, projecting consonance upon a rather more variable real materiality. James Linton analyses this development of the water cycle as over-generalised, colonial and “starkly antithetical” to both “climatic instability and the possibility of dramatic change in the natural conditions that sustain human societies.”³⁹ This imposition of a romantic harmoniousness has carried over into current cybernetic techno-imaginaries of contemporary Earth Systems sciences.⁴⁰ Once the frequency and amplitude of these loops is detected, we are ably poised to control or re-synthesise them.

37 Andrea Polli, “Atmospherics/Weather Works: A Spatialized Meteorological Data Sonification Project”, in: *Leonardo* 38:1 (2005), 31–36.; M. Quinn, *Research Set to Music: The Climate Symphony and Other Sonifications of Ice Core, Radar, DNA, Seismic and Solar Wind Data* (Atlanta, GA: Georgia Institute of Technology, 2001).

38 Joyce Y. Wong, John McDonald, Micki Taylor-Pinney, David I. Spivak, David L. Kaplan, & Markus J. Buehler, “Materials by Design: Merging Proteins and Music”, in: *Nano Today* 7:6 (2012), 488–495.

39 Jamie Linton, “Is the Hydrologic Cycle Sustainable? A Historical-Geographical Critique of a Modern Concept”, in: *Annals of the Association of American Geographers* 98:3 (2008), 630–649.

40 Lee R. Kump, James F. Kasting, & Robert G. Crane, *The Earth System* (Upper Saddle River, NJ: Prentice Hall, 2010).

Guy Debord wrote of 19th century scientific optimism—the “view of the universe, or even simply of matter, as harmonious”—that it was “an illness that must be cured”.⁴¹ Crystallising for our contemporary moment around the time of the “Californian Ideology”,⁴² the harmonising goals of techno-hippiedom and cybernetics instantiate boot-up processes for “Smart Earth”⁴³ or “Gaia 2.0”⁴⁴—the management of nature and ecologies through remote instrumentation and sensing, information networks and planetary magnitude intervention. This at first seemingly contradictory integration of cybernetic engineering and eco-pastoral custodianship drives much of the current ‘planetary stewardship’ intent of geoengineers. There is growing interest in and acceptability of geoengineering practices, bolstered by imaginings of human-orchestrated harmonies, including putative technologies such as carbon dioxide gas removal and sunlight redirection away from the Earth. Arguments for research and resources characteristically subject the present to the demands of the future, claiming geoengineering research as a responsibility, and one that will prepare future generations for inevitable coming catastrophes: “We can’t bind our children’s hands.”⁴⁵

The post-war work of Canadian musician and composer R. Murray Schafer and his “World Soundscape Project” views Earth’s sonic environment as explicitly ‘tuneable’. He initiated and energised theories, studies, arts and activist impulses of a new field he dubbed “acoustic ecology” in the late 1960s—studies and trajectories that continue to this day. His teams of “ear-witnesses” use recording devices to map and chart the “earcons” of urban, rural and nonhuman landscapes, always with a view toward ridding the acoustic environment of “sonic pollution”. The acoustic-ecological imaginary projects a kind of phenomenological environmentalism, as anthropocentric acoustic harmonies are transposed into ecological well-being.

41 Guy Debord, *A Sick Planet* (Seagull Books Pvt. Ltd., 2008).

42 Richard Barbrook & Andy Cameron, “The Californian Ideology”, in: *Science as Culture* 6:1 (1996), 44–72.

43 Karen Bakker & Max Ritts, “Smart Earth: A Meta-Review and Implications for Environmental Governance”, in: *Global Environmental Change* 52 (2018), 201–211.

44 Tim Lenton & Bruno Latour, Gaia 2.0, in: *Science* 361:6407 (14 Sep 2018), 1066–1068.

45 David Keith, quoted in Morgan Clendaniel, “Is Solar Geoengineering Crazy, or Just Crazy Enough to Work?”, in: *Fast Company* (online), 13 May 2019: www.fastcompany.com/90343440/is-solar-geoengineering-crazy-or-just-crazy-enough-to-work.

Schafer’s critics have labelled him as conservative and anti-progress, a bourgeois noise-abatement crusader. There are indeed worrying signs that Schafer’s thought enacts a regressive and Eurocentric will-to-control, using composition to impose an Eden-like quietude. His major book on these subjects, *The Soundscape: Our Sonic Environment and the Tuning of the World*,⁴⁶ for example, has as its frontispiece Robert Fludd’s diagram “divine or celestial monochord”, depicting a hand (of God) descending from the heavens to “tune” the planet and its human souls—a positioning even the most zealous geoengineering advocate would hesitate to occupy. Schafer wanted acoustic ecology to be more than a study, but also a design programme—his desired pedagogies toward “sonological competence” would bring about an integrated management of contemporary soundscapes. He at once acknowledges that “the designer does not redesign a whole society: He merely shows society what it is missing by not redesigning itself”, at the same time asserting that “society is always incapable of imagining improvements without the voice from beyond”.⁴⁷

4. Transceiving Earth

It seems probable that if the earth itself transmits, if it ‘speaks’ of its own future, that it does so electromagnetically. An experimental Russian research programme on “ionospheric precursors to earthquakes” points to the existence of electromagnetic perturbations in the sky that precede earthquakes. These magnetic fields seem to co-constitute the planet’s churning tectonic plates, creating atmospheric and ionospheric flows and eddies that can appear weeks prior to an earthquake.⁴⁸ The telluric charge of Earth’s churning core issues a pre-figurative transmission to the outer reaches of its atmosphere, much like, but in opposition to a lightning strike, which is less a downward transmission from a stormcloud and more like “stuttering chatter between the ground and sky”.⁴⁹

46 R. Murray Schafer, *The Tuning of the World: Toward a Theory of Soundscape Design* (Philadelphia: University of Pennsylvania Press, 1980).

47 Ibid.

48 V.M. Sorokin & Y.Y. Ruzhin “Electrodynamic Model of Atmospheric and Ionospheric Processes on the Eve of an Earthquake”, in: *Geomagnetism and Aeronomy* 55:5 (2015), 626–642.

49 Charlie Gere, “Media”, in: *The Year’s Work in Critical and Cultural Theory* 23:1 (2015), n.p., advanced online publication.

The communicative potential of the solid planet as a carrier of electromagnetic radio, along its surface or through its depths without wires, has been the basis of messaging systems. One such, developed in Germany in 1916 by science fiction writer Hans Dominik and partners, permitted “long-distance communication without the vulnerable mess of cables and wires”,⁵⁰ another kind of ‘wireless’ not through the air but through the earth. Electromagnetic, solid-earth potentials were also the basis of Project Sanguine, a proposed U.S. Naval research project, only partially implemented, involving extremely low frequency (ELF) communications for which testing began in 1968. The essentials of the system involved a giant antenna, consisting of just under 10,000 km of buried cables in a subterranean matrix, covering 58,000 square kilometres of the North American continent. It was designed to be able to broadcast *through the planet*, anywhere in the world, and would theoretically continue to function even after a nuclear firestorm. The initial proposal for Project Sanguine placed its epicentre in the state of Wisconsin, where the ancient geological iron core of North America (the *Canadian Shield*) creates ideal conditions for using a large volume of the Earth itself as an antenna. A scaled-down version of the project was implemented during Ronald Reagan’s ‘revitalisation’ of defence systems in the mid-1980s, operating until 2004 when administrators finally conceded to its obsolescence. ‘Through-the-Earth’ (TTE) communications remain commercially available and common in mining and petroleum industries to enable subterranean coordination.

Douglas Kahn highlights the pre-existent media of electromagnetism with his phrase: “Radio was heard before it was invented, and radio, before it was heard, was.”⁵¹ All electromagnetic media on planet Earth is perturbed by auroral activity, a consequence of solar winds and radiation in the ionosphere. During a major space storm in 1859, telegraph operators in Boston and Portland were able to disconnect their batteries, and “for more than one hour they held communication with the aid of celestial batteries alone”.⁵² Kahn highlights how Thoreau’s musings on the telegraph as an Aeolian harp—“a harp on so great a scale, girding the very earth, and played on by the winds of every latitude

50 Laurence A. Rickels, *Nazi psychoanalysis*, v. 3, Psy Fi (Minneapolis: University of Minnesota Press, 2002).

51 Kahn, *Earth Sound Earth Signal*, op. cit.

52 D.H. Boteler, R.J. Pirjola, & H. Nevanlinna, “The effects of geomagnetic disturbances on electrical systems at the Earth’s surface”, in: *Advances in Space Research* 22:1 (1998), 17–27.

and longitude”⁵³—grounded the imaginary field of later electronic avant-garde artworks that operate on geophysical scales. Composer Alvin Lucier’s works with “natural electromagnetic sounds” in the piece “Whistlers” (1966) and Gordon Mumma’s understanding of an art and music of “astro-bio-geo-physical” energies propel imaginaries of the planet as a *transceiver* of signals and as an electromagnetic being.

5. Impressing & adhering

Do I contradict myself? Very well, then I contradict myself, I am large, I contain multitudes.

—Walt Whitman⁵⁴

Masaki Fujihata’s formative and pioneering 1992 project, “Impressing Velocity (Mount Fuji)” is a work that creates an earthly imaginary, conceived at the outset of a now ongoing fetish and race to digitise the planet. Fujihata’s piece was bodily, embodied and laborious. Packing a rucksack with what was at the time a rather large and heavy kit-of-parts, including a serial GPS module, a laptop computer and a (then, not-commercially-available) head-mounted video camera, Fujihata climbed up the side of Mount Fuji. His ascent was recorded as elevation, longitude and latitude data, and as point-of-view video, registering his trajectory as well as the velocity changes of his climb. Once back in his studio, these changes were then used to warp and distort renderings of a 3D model of the real volcano. The explosively distorted resulting 3D image reflects and amplifies Fujihata’s deceleration and fatigue during the hike. The resulting images impart the psycho-biological processes of Fujihata’s body, as bound to the vital necessities of energy and exhaustion, while he scrambles up the highest volcano in Japan. The qualities of Earth’s terrain, mapped through satellite data, are re-inscribed, traced, through a perspectival, human and

53 Henry David Thoreau, cited in Kahn, *Earth Sound Earth Signal*, op. cit.

54 Walt Whitman, *Song of myself* (Courier Corporation, 2001).

bodily experience of its inclines. This linking of the digital representation of a geological, planetary feature with the activity of one of its surface dwellers presumes no dominance or dominion. It is a work of moment-to-moment relations that adheres to real earthly situations of ecology and humans. Fujihata himself called for such new relations to computed representations that would “be designed for organising events for the emerging self in real-time” instead of as “a kind of office for handling documents or as a media terminal”.⁵⁵

Human activities and technologies have already re-engineered always changing planetary drives, once supposed predictable systems now pushed into states of novel, precarious instability. The horizontal consistency we can trace from Nadar to Google Earth to Planet Labs seems to beg for renewed planetary images that give us a picture of this new earthly condition; new, always ambiguous, reflective opticalities and traces that grapple with laterality and the obtuse, distorted and un-interpolatable views of an incalculable planet. Humans are not the *kybernetes*—“steersmen”—that elliptic, cybernetic sciences have propped us up to be. If we are able to listen well and harmonise at all, it is as things also embedded in this world, not above, or outside it. Harmonious wholes are nowhere to be sought or found, as this imaginary would presume us able to orchestrate a symphony of natures that is patently *out of control*. Sensitive transmissions and receptions are acknowledged to occur in all directions at once, through and from the Earth. Productive knowledge practices of the future in art, science, research and experience, must ground and attach us to *this* planet, one that is large, and contains multitudes.

⁵⁵ Masaki Fujihata, “On Interactivity,” publication from Ars Electronica Festival (1996), 316–319.