

1990 BALL 2000 BELTRÁN 2010 BENNETT  
 2020 H. BRATTON 2030 CHARRIÈRE  
 2040 COHEN + 2050 VAN BALEN  
 2060 DAVIS 2070 DURHAM PETERS +  
 2080 FEIGELFELD 2090 ELIADE  
 2100 GROUP 2110 GROYS  
 2120 HENROT 2130 HIORNS  
 2140 HUMEAU  
 2150 KATAMBAYI MUKENDI 2160 LARIC  
 2170 MAYER 2180 MORTON +  
 2190 SKARNULYTE 2200 ONDREICKA  
 2210 PARIKKA 2220 PASQUINELLI  
 2230 PATERSON 2240 SAMMAN  
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 2270 WEIWEI 2280 XIAO 2290 ZHILYÆV

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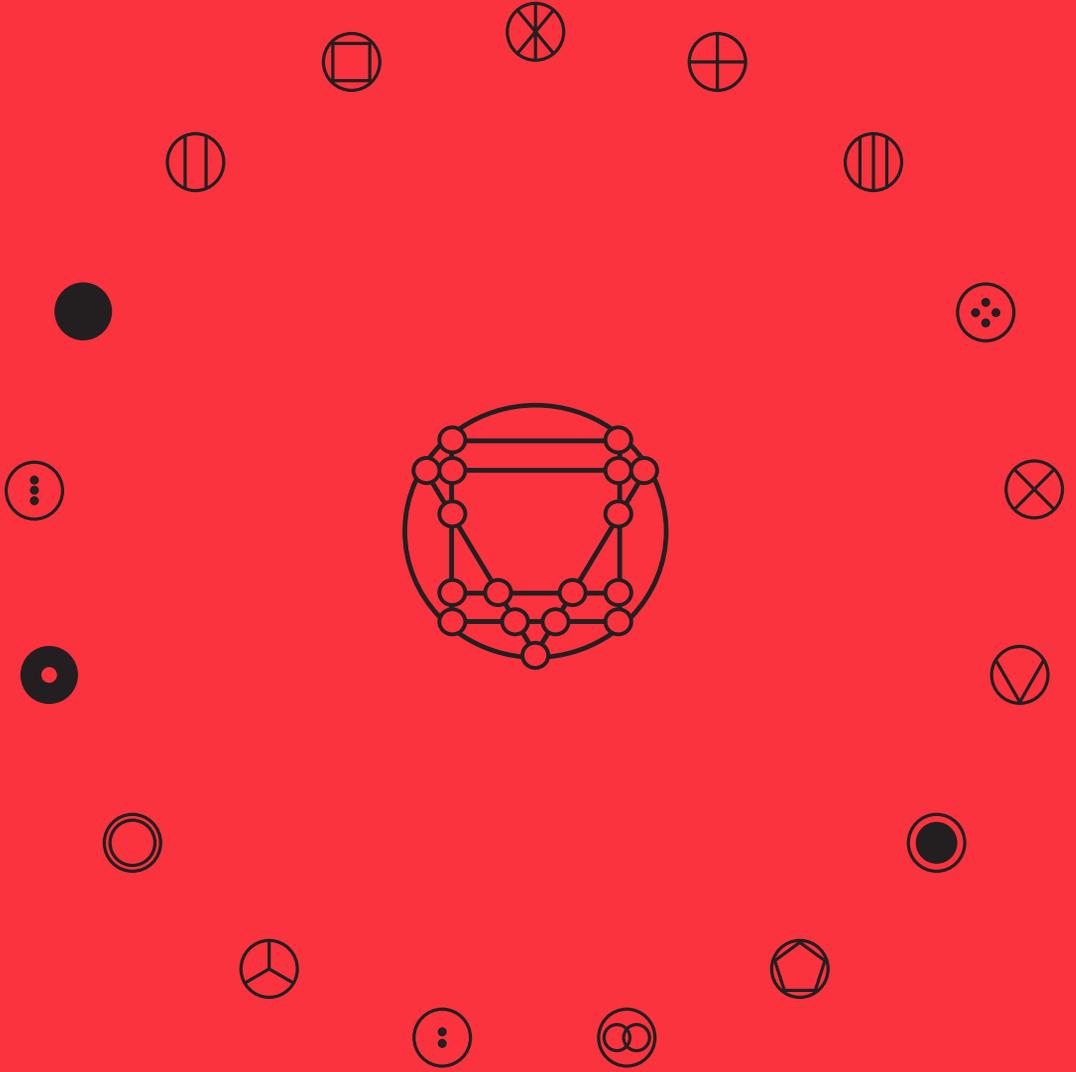
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Rare Earth

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Curated by  
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—Boris Ondrejčka

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Rare Earth

# IT IS SAMMAN

Rare Earth

The idea of the Human can only come from elsewhere, not from itself—the inhuman is the only evidence for it.<sup>1</sup>

The question of periodization is a key aspect of the historical enterprise. What separates one moment in human endeavor from another? How do we knit past events together into narratives that account for why one thing happened and not something completely different altogether? What things or objects should we analyze in order draw conclusions about the spirit of an age? These are not new questions, but prioritizing one periodic frame above others can feel rather arbitrary, given the complexity of prevailing techno-cultural conditions. How, then, might we approach the issue of what is *contemporary* through an exhibition? Can we ground our attempts to represent this period in something more tangible than references to the immaterial or virtual—figures whose ubiquity seems to stem from their ethereal and thus all enveloping resonance? Can we appeal, instead, to something elemental?

In the middle of the first Industrial Revolution Karl Marx identified its paramount symptom: “All that is solid melts into air.” Today, data is stored in clouds and shares float along with exchange rates. The new revolution is seemingly untethered—wireless and mobile—with bubbles drifting through the worlds of finance and philosophy alike.<sup>2</sup> This is just some of the buoyant rhetoric attending our “weightless economy” and the rise of “immaterial labor.”<sup>3</sup> In addition to this ethereal framing of our digitally informed culture, today’s experience of geography—as mediated by IT—imparts a sense of displacement, hovering, and even teleportation. Sitting at our desks, corresponding with colleagues on the other side of the world, we find ourselves situated in one place *and* another. Every day millions of people have out of body experiences, enabled by avatars on social

- 1 Jean Baudrillard, *Fragments* (London: Verso, 2007), 103.
- 2 So-called financial market bubbles, and in old-fashioned magnum opera of philosophy such as Peter Sloterdijk's *Spheres Vol. 1: Bubbles* (Los Angeles: Semiotext(e), 2011). In this initial volume of the 2500 page work, Sloterdijk, a self-described "student of the air," reimagines the history of Western metaphysics as beginning with the discovery of self (bubble) before moving on to the exploration of world (globe) and the poetics of plurality (foam).
- 3 A portion of the economy which exchanges intangible services and products, including software, databases and intellectual property. There are at least two key features of the weightless economy. First, products have a high initial cost to develop, but a very low cost to reproduce and distribute. Second, products can be distributed infinitely. These two factors mean that the weightless economy can be among the fastest growing and most profitable sectors of business. See <http://www.investopedia.com/terms/w/weightless-economy.asp>.

media, or in multiplayer game worlds. Meanwhile, the ubiquity of Google Earth and air travel make us accustomed to the God's eye perspective of satellites, in orbit, beyond gravity.

Compounding this feeling of untethering, the techno-contemporary experience also promotes an ethos of interchangeability—a function of the phenomenology of web browsing. Hyperlinked cultural space is for the most part flat, with seemingly infinite pathways between sites and values. This suggests a lack of privileged vantage points from which to survey a scene. If you want to learn something about climate change, crackpot theories vie with peer-reviewed research on the same plane. This is surfing—skipping along a vast surface, unencumbered by drag—a synchronic movement without a vertical, lacking depth.

It might seem that the rhetoric of immateriality captures the *spirit* of our age, in so far as it is deployed in connection with the newest technologies. But at some point it collapses under its own weight. It also turns out that the displaced "anywhere," "anytime," "any value" planes of hyperlinked surface do have a horizon. In fact, the limit point of both is one and the same—and it is from this core that "Rare Earth" erupts. We arrived at this position by digging into the early history of exhibition making—specifically, its beginning. One of the earliest periodizations associated with the birth of the museum was the Danish antiquarian Christian Jürgensen Thomsen's approach to exhibiting prehistory—categorizing epochs of human enterprise through reference to the key material bases for cutting-edge tools and weapons. His analysis significantly refined the classifications Stone Age, Bronze Age, and Iron Age. Even in the absence of written testimony, Thomsen's method was capable of bringing to light fields of ritual, production, and social relations. Transferring Thomsen's thinking into the present moment, it is clear that the most revolutionary materials for today's new tools and weapons are a class of seventeen elements from the periodic table. Rare earth elements are the game-changing basis of our most potent new tools—devices that power the so-called information revolution. They are also integral to our weapons systems in the age of cyber-warfare: they are fundamental to smart phones, tablets and laptops, compact fluorescent lamps (LEDs, lightbulbs), hard disks, CD-rom and DVDs, flat panel LCD screens (and, before them, television cathode ray tubes),

medical technologies, hi-fi audio, portable electronics (including mobile phones and tablets), small motors, hybrid vehicles, and many more ubiquitous applications. Accordingly, rare earth elements play an increasing role in global affairs, and constitute a fertile ground upon which to begin an exploration of the *contemporary*.

Our route has also been inspired by one of the most daring reflections upon the relationship between the development of revolutionary tools and weapons and the production of identity. In 1956 the founder of comparative religious studies, Mircea Eliade, described the spiritual upheaval attending the Iron Age. According to his argument, primitive man's discovery of his ability to change matter from one state to another—the beginning of a journey that would, eventually, lead to chemistry and the materials science of our day—engendered rites, allegories, and symbols that have since reverberated throughout human history. It was in this period, he observed, that a whole new pantheon of gods was established—Thor, the smith god with his hammer and anvil, being just one characteristic example. The early forging of iron from ore was also, he maintained, the birth of the idea of alchemical transmutation, of being able to turn base metals into more “noble” substances such as gold, and—significantly—the idea that man himself might also be perfected.<sup>4</sup> This historical reflection helps us focus on the possibility that powerful new myths and identities are, similarly, being developed, and distributed, through rare earth enabled media applications today: namely, through inventions that facilitate novel modes of (self)imaging—the human body in magnetic resonance scans (MRI), parades of figures on screens worldwide, radar outlines of moving targets, and big data pools that capture our every move. Eliade's thesis lends weight to the notion that the contemporary spirit is built, so to speak, from the ground up.

We need not search too hard for echoes of this conflation of technology with spiritual development, and for purifying and overcoming the base matter of human biology, in the arguments of some contemporary philosophers. Raymond Kurzweil's notion of “the singularity” is a paramount example of emergent mythical thinking in the age of rare earth—the idea of perfection as the merging of man and machine on an untethered plane of existence. For Kurzweil, it is time to argue for overcoming the

- 5 Raymond Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (London: Penguin Books, 2005), 9.
- 6 See <https://twitter.com/savageminds/status/542226785107054593>. Accessed January 12, 2015.
- 7 As one critic puts it, “Technology’s interaction with the social ecology is such that technical developments frequently have environmental, social, and human consequences that go far beyond the immediate purposes of the technical devices and practices themselves.” Melvin Kranzberg, “Technology and History: Kranzberg’s Laws,” *Technology and Culture* 27, no. 3 (July 1986): 545.

body, and to actively pursue this goal through—we observe—rare earth enabled technologies.<sup>5</sup> Critical engagement with such agendas is becoming an urgent task, as the ideology of dematerialization makes us confuse ourselves with gods—pushing aside the issues of inequality and just distribution of resources which, necessarily, attend all embodied human needs. To judge the moral weight of these visions of the contemporary spirit we need only look for the bodies, and they are everywhere: we shoot video from hobby drones and real people from military ones, always acting at a perceived distance—Zeus issuing thunderbolts from the Cloud.

The Cloud is a green zone, a Mac store, a white cube. Everything else is earth, littered with bodies and discarded junk, scarred by terraforming and a War on Terror—to keep the wells open and the mines producing. Below the Olympian heights of the new techno-demiurge there is trauma, applied to the earth as a planetary body as much as to people. Let us, therefore, subordinate the “anytime,” “anywhere” framing of techno-culture to a situated *geology of media*, acknowledging Jussi Parikka’s observation that the “deep time resources of the earth are what makes technology happen.” Rare earth elements are extracted from very specific locations. Moreover, though their applications, especially media technologies, might catalyze feelings of weightlessness and displacement in the user—dreams that we have broken free of the earth, time, and corporeal being itself—these devices are real burdens from an ecological standpoint. As McKenzie Wark puts it, channeling Parikka, “Cinema is like a bright brief digital dawn across the surface of devices destined to spend the eons again buried in the analog night.” Elsewhere, “the deep time of the earth is quite literally strip-mined to make the quick-time movies of our era.”<sup>6</sup> Of course there is bathos in the statement that we are mining our deep time resources to run such videos. The immediate impression is that our planet is being trashed only to produce junk—in this context “quick-time” sounds like fast food. But, precisely because the current ecological crisis is indisputable, we must not leave the cultural impact of rare earth applications unexamined.<sup>7</sup> There can be no treatment of our environmental sickness while the ideology of untethering and immateriality remains cloistered, apart from its material wellspring.

8 Donna Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," in *Simians, Cyborgs and Women: The Reinvention of Nature* (New York: Routledge, 1991), 149-81; <http://www.egs.edu/faculty/donna-haraway/articles/donna-haraway-a-cyborg-manifesto>.

9 Manuel De Landa, *A Thousand Years of Nonlinear History* (New York: Zone Books, 2000), 111.

In fact, we need deeper reflections upon the increased tethering, interconnection, or fusion of humanity and non-human objects or systems. We may liken this fusion process to a spreading virus, as the term implies not only the occupation of a host by something alien but also the prevalence of mutations—such that both host and insurgent are deeply altered through contact with one another, and may even develop into something new altogether. Fortunately, cultural analysis is already undertaking this task. According to Bruno Latour:

We find ourselves invaded by frozen embryos, expert systems, digital machines, sensor equipped robots, hybrid corn, data banks, psychotropic drugs, whales outfitted with radar sounding devices, gene synthesizers, audience analyzers.

Just a few of the proliferating nature-culture hybrids that are symptomatic of what he terms our "modern" condition. Mixtures that seem, to him and many more thinkers, to call for radical new analyses, to better address the increasingly blurry boundaries between "dumb" things and animate life. Following Deleuze and Guattari's foundational statements on "connective and disjunctive syntheses" there was "A Cyborg Manifesto" (1985), in which Donna Haraway asserted the breakdown of clean distinctions between organism and machine as "any objects or persons can be reasonably thought of in terms of disassembly and reassembly." "No 'natural' architectures," she continues, "constrain system design."<sup>8</sup> The American philosopher Manuel De Landa's *A Thousand Years of Nonlinear History* would seek the basis of human societies—including the birth of cities, economic structures, technologies and languages—in material processes. "Culture," he maintained, "is not a completely separate sphere of reality, but instead mixes and blends with flows of organic (and even mineral) materials."<sup>9</sup> If this is the case—*pace* Eliade—we must acknowledge the presence of machines and inanimate agents in the areas we previously thought our ghosthood—consciousness, memory, desire, sensation, and even civilization. Teleological forces like the Hegelian *geist*, "human nature," and most varieties of essentialism appear as naive suppositions in the age of rare earth.

- 10 “Correlationism consists in disqualifying the claim that it is possible to consider the realms of subjectivity and objectivity independently of one another.” See Quentin Meillassoux, *After Finitude*, trans. Ray Brassier (London: Bloomsbury, 2008), 5.
- 11 *Ibid.*, 7.
- 12 See Ian Bogost, *Alien Phenomenology, or What It’s Like to Be a Thing*, (Minneapolis: University of Minnesota Press, 2012); and Timothy Morton, *Rethinking Environmental Aesthetics* (Cambridge, MA: Harvard University Press, 2009).
- 13 The notion of the Anthropocene can be summarized as the observation that the geophysical sphere has become a prosthesis of humanity—we have transformed the earth and remade it in our own image. For object-oriented ontology and Dark Ecology, the move is in the opposite direction: suggesting that we are the prostheses of inhuman, alien entities.

Such reflections set the scene for more recent projects that decenter the human subject’s position in the realm of ontology—the philosophical study of being. Simply put, a growing number reject the idea that the world exists for human consciousness, a basic principle of Western philosophy since Kant that has been termed *correlationism*.<sup>10</sup> Rather, a thing exists “regardless of whether we are thinking of it or not.” With the human subject denied priority, horizons are pushed back and the “great outdoors, the absolute outside” beckons.<sup>11</sup> It becomes time to engage in object-oriented ontology; to entertain *Alien Phenomenology* and ask the question “What is it like to be a thing?”; to pursue “speculative realisms” and even *Ecology without Nature*.<sup>12</sup> The strangeness of our hybrid moment has forged some truly visionary reimaginings of materials as agents in their own right: as Others that move—and which move us. The study of anthropology has long since confirmed that while we may design our technologies, these tools and weapons shape us in turn. Following the philosophical repositioning of the human subject a further thought emerges: while it may seem that we dream the contemporary into existence, perhaps rare earth elements and other materials are dreaming through us.<sup>13</sup> Our most *contemporary* art is, of course, engaged in the task of mapping the contours of this new hybrid terrain and the putative agency of materials. The works in “Rare Earth” are wholly engaged in this challenge.

The exhibition unfolds as a kind of kaleidoscopic dream space, in which speculation and fact intermingle: a *parcours* through myth and material, proposing interplay between the *spirit* of our age and its physical basis in rare earth enabled tools and weapons. Detailed descriptions of each artwork appear elsewhere throughout this volume, but it is worth briefly commenting upon how the featured artworks serve this agenda. “Rare Earth” features ten newly commissioned pieces, which develop the theme by staging the impact of rare earth elements on our contemporary culture and worldview: outlining their bewildering range of applications across various spheres (Suzanne Treister); highlighting the contested scientific, economic and political circuits that underpin these products—as well as reflecting upon the ubiquity of rare earth elements in the accoutrements that surround us, and which enable contemporary lifestyles (Revital Cohen and Tuur van Balen, Ai Weiwei). As they

do so, such works highlight how unconsidered and somewhat obscure the importance of rare earth elements are for most people, gesturing toward the laissez-faire attitude our culture takes toward the use and abuse of natural resources. Other newly commissioned works, such as Ursula Mayer's *Luminous Lining* and Erick Beltrán's *Hephaestus's Dream*, consider how mastery of rare earth elements begets new identities and mythographies. These include cyborg couplings of man and machine—fluid boundaries of personhood—just as the material engagements of ancient history gave birth to the automaton forged by Hephaestus, the Greek god of metalwork. Others, such as Marguerite Humeau's *Screams from Hell: Requiem for Harley Warren* and Charles Stankievecch's *Anbarium*, dramatize the agency of rare earth elements by imagining them as living actors who possess their own voices and agendas. Moreover, beyond questions of individual agency, the issue of social conflict is brought into the frame, through critical appraisal of the status quo that brings rare earth enabled tools to market and which, consequently, demands the emergence of a new class of revolutionary actors (Arseniy Zhilyaev). And from the ground up, so to speak, a work such as Jean Katambayi Mukendi's *Voyant* reflects upon the viability of alternative modes of self-reliance in the technological sphere, while offering an identificatory totem to such endeavors.

The exhibition also includes seven loaned works, across a spectrum of media and artistic approaches. While, apart from Iain Ball's *Energy Pangea: Neodymium*, they might not obviously take rare earth elements as a topic, they do share a concern with how emergent technologies condition our contemporary experience; stimulating new self-images and desires (Otolith Group); increasing our control over the natural world (Camille Henrot, Katie Paterson), as well as our fellow human beings (Roger Hiorns) by virtue of being both powerful *new tools and weapons*. Others take as their topic the redrawn perceptions of time and space associated with rare earth media—that is, the apparent feeling of a perpetual, weightless present (Guan Xiao, Oliver Laric). Blindly championing this perception—or ideology—is, as the exhibition mission contends, to willfully deny the background of mines, labor, and ecological impact that rare earth applications require. That “Rare Earth” does not feature photographic documentary exposés of human and ecological

trauma is intentional. It is only by critically attending to what blinds or intoxicates us that we may discern possible antidotes. Moreover, the ideology of transparent media—including news media—must be challenged. Running counter to the geology of media and its mode of environmental and political engagement, transparency occludes the existence of hybrid bodies in its pursuit of more digestible or discrete images: journalism *figures* effect. Staging the powerful interplay between materials science, technology and new mythic/ideological structures, “Rare Earth” addresses structure and *ground*.

A specter has been haunting contemporary technoculture: its own materiality. This project is a speculative cosmology, the exhibition as alchemy: a counter-intuitive hybrid of astringent design and system-fetish meeting the mud and fossils of archaeology. It is modernism, Minimalism, and Land art collapsed into pop-up menus and touch screens: biology rendered unto the mineral. It is what is bubbling way in underground caverns and what is cooked up in laboratories. It is the masters we serve while seated at our worktables, and the things created on operating tables. It is an image on a tablet and its function as medicine. It is a spreadsheet tabulating biopolitical futures. It is the question of historical periodization contained in the periodic table.

Rare Earth elements perplex us in our researches, baffle us in our speculations, and haunt us in our very dreams. They stretch like an unknown sea before us mocking, mystifying and murmuring strange revelations and possibilities.\*

RARE EARTH is seventeen chemical / mineral / metal elements.

RARE EARTH elements (fifteen Lanthanides + Scandium & Yttrium) were named (derived from Greek or Latin origins) according to site or person of discovery, property of the matter (metaphorically amplified through mythological figures), or other dedications:

Scandium (from Lat. *Scandia*=*Scandinavia*), Yttrium (after the village of *Ytterby*, Sweden, where the first RARE EARTH ore was discovered, 1787), Lanthanum (from Gr. *lanthanein*=“to be hidden”), Cerium (after the dwarf planet *Ceres*=“to grow” named after the Roman goddess of agriculture), Praseodymium (from Gr. *prasios*=“leek-green,” + *didymos*=“twin”), Neodymium (from Gr. *neos*=“new,” + *didymos*=“twin”), Promethium (after the titan *Prometheus*, who brought fire to mortals), Samarium (after the chief of Russian Mining Engineering Corps *Vasili Samarsky-Bykhovets*), Europium (after the continent of *Europe*), Gadolinium (after the RARE EARTH investigator *Johan Gadolin*), Terbium (after *Ytterby*, Sweden, once more), Dysprosium (from Gr. *dysprositos*=“hard to get”), Holmium (from Lat. *Holmia*=*Stockholm*), Erbium (after *Ytterby*, once more), Thulium (after the mythological northern land of *Thule*), Ytterbium (after *Ytterby*, once more), Lutetium (from Lat. *Lutetia*=*Paris*, after its first report by *Georges Urbain* at the Sorbonne, 1907).

\* Sir William Crookes, cited in John Emsley, *Nature's Building Blocks: An A-Z Guide to the Elements* (Oxford: Oxford University Press, 2001), 219.

RARE EARTH elements (produced by supernova nucleosynthesis ...) are used in clean energy and high technology, the defense industry, communications systems, metallurgical applications, alloys, chemistry, petroleum-refinement, automotive-catalytic converters, electronics, computer monitors, lighting, lasers, radars, televisions, x-ray-intensifying films, glass polishing, ceramics, batteries, fiber-optics, nuclear medicine, mineral (deep) skincare cosmetics, permanent magnets, spectroscopy, and geochronology = dating fossils ...

According to the *Bloomberg Rare Earth Mineral Resources Index*, since 2010 China controls the market for more than 95 percent of the RARE EARTH minerals traded globally each year, and holds an estimated third of global RARE EARTH reserves (the United States was previously a major player). Another recently developed source of RARE EARTH is electronic waste = recycling. RARE EARTH elements are rare *not* because they are *not* plentiful, but because being non-concentrated, scarce, dispersed = technically / economically difficult to extract. The economic difficulty → ecological desolation, (in)human exploitation, leisure imperialism<sup>A: 01</sup> = new modes of manipulated consumer unconsciousness / automaticism ≈ dependency.

RARE EARTH is sold on private markets exclusively, which enhances its obscure aura. Rare is a speculative significant (trade-wise). RARE EARTH is both tactile deed & allegorical representation; a totem.<sup>02</sup>

RARE EARTH in the case of our (eponymous) project is a discourse between *elements*

(among many after *Naturalis Historiae*, 1469, of Gaius Plinius Secundus, classifications → systematisation, arrangement [grouping ...] of elements according to the complexity of their properties, to *The Dependence between the Properties of the Atomic Weights of the Elements*, 1869, of Dmitri Ivanovich Mendeleev, which includes *The Periodic Table*)

and *periodization*

(among many after *Hesiod's Works and Days* written 2700 years ago [which includes *The Myth of Five Ages*], mythopeic descriptive categorization, utilitarian division of time into blocks, arbitrary abstraction, according to material→tool [technologization]→dwelling site [urban-ization] = *oikos* = “eco”→society, progress/ evolution, eco + *nomos* [...], eco & ego, to *Christian Jürgensen Thomsen's Guideline to Scandinavian Antiquity*, 1836, which includes the three-age categorization of *Stone Age*, *Bronze Age*, and *Iron Age* = the cradle of modern museology: need, desire for organization [orientation→orientalism], [symbolical] order, lucidity, communication, supremacy, representation / manifestation, economy, security):

periods, epochs, eras, ages, aeons, materials, states, substances, essences, mediums, averums, commodities, products, goods (& bads), objects↔subjects, aggregates, solutions.

Tabula rasa (= Tablet)→The Periodic Table.

It is fascinating how terms flirt between geology, sociology, psychology, spiritualism [...] exchanging semantic fragments (properties, accoutrements) on metonymical markets.

RARE EARTH, in the case of our project (seventeen artistic positions), is a substitute term (proposition, figure, transfer) of the comatose<sup>°</sup> (*antichronos*) rough-&-ready pseudism the contemporary<sup>◇</sup> = *Zeitgeist* / sign of our dispersed times = RARE EARTH Age = the elements as an emblem of the period.

° Comatizing, hibernizing, or hypnotizing?

◇ After artist, critic, scholar and entrepreneur *Roger Fry* (1866–1934), describing uncategorized French painting of his era, concluded launched the term *Postimpressionism*.

*Substitute* terms serve as more preferable *economical* (cummulation of extended context to *composite* homogeneous, *discotic* singularity, cosmocracy; using salient aspect of the metaphor + spontaneous prolongation of standard language = *the metaphorese*<sup>B</sup>; the unbreakable bond between science, engineering, metallurgy, & warfare, as described by *Sun Tzu* 2500 years ago<sup>C; 03</sup> / metal→meta; as we have used to pettifog about *cold war* or *iron curtain*; worlds est. 1989→from political correctness to mind-control, nonlinearity, contemporaneity, www-globality est. 1991→spider & flies ...) *vehicles* than those existing or available.

*Substitutes* (prostheses) replace absent, missing, lost, hidden, forgotten, suppressed, erased, amputated, stolen, forbidden, or inappropriate (according to subject↔ location-position↔object): what we can't afford; have scruples about; want to avoid.

New *names* are extracted, amalgamated, fused (enriched by stimulating additives) from old *words*. New *names* like to look like old *words* (regressive eclecticism of the nomenclature of *lingua scientia*, back to “conservative values,” retroevolutionary relevance, math & myth, oxidation by dead languages / exhumed mummies [corpses & corps], plastic surgery of academia & agora, negative poetics / dark sciences, ambidexter time-history-memory-archive<sup>04</sup>).

*Substitute terms* are *mediators* (conciliators, liaisons, joints), dynamizators, interactivizators. *Substitute terms* stand in the *middle*, *amid*, *inter*, *between*, *within*, *among* (subject↔object), *meta* (implication, <sub>subtext</sub>/<sup>supertext</sup>), in the *bosom*, + *beyond/behind* + *above/below* [...] The (apparently empty) space between +/- is the majoritarian & supreme part of the universe *en bloc*.

*Mediums & agents*: metalanguage<sup>D</sup> (program), energy (light / temperature, *caloricum*, *fire* – *Prometheus*→*Promethium*, *Fiat lux*, *Creatio ex nihilo*, electricity, luminiscence, radiation, sublimation, explosion, warmth vs cold, light vs dark, *enlightment*→alchemical boom<sup>E</sup> ..., alternative, bio / *organic*, *cosmos*–*polemos*–*logos*–

*graphos-nomos* ..., in & ex sources, in/ex↔ex/in), magneto-optics, wireless friendships (fat-free & ph-neutral, sugarless but still sweet; missions & emissions & emanations).

The recalcitrant sum of acquirements (hyper-nature) forced the *intersubjectivity* to restratify (institutionalize, industrialize) to the *mediation environment* (crude normality→surveillance normativity, *on-line* which has dissolved back to *on-air* [in a mean-time], *aer incognito*, aether).

*Mediation* (agency, ministry, reconcillation ...) was formerly known as *alternative dispute resolution*, once private & confidential, or even sacred, later manufactured empathy, composite, metonymical, analogical, synonymical, metaphorical, personified; analogies, associations, alliances (corporations, companies, cooperatives, holdings, trusts, entities, identities), connections, ~~translation~~ / interpretation, hermeneutics, valuation (trade-wise) [...] learning & unlearning, buying & selling, recycling, transfiguration.

The *mediation aether* (*topos*?) does not only mediate (as subordinate service apparatus) but creates superordinate (+ -/+ ) autonomous production, subjective pathogenicity (monitoring, stalking, collecting & postproducing [personal] data ...) based on utter adaptability of form, without changing its internal “molecular” structure. The *mediation aether* fastens crystallization processes (particle accelerators). The *mediation aether* synthesises knowledges (& attitudes). Omnidisciplinary *mediation aether* singularizes plurality (antonymical twins, *didymos*, are losing antipods, symmetrically; from antipods to *iPods*). The *mediation aether* is out of any (aesthetical, ethical, moral) polarization / uni-neutral *per se*. It is magnetized aether (*pneuma*, *psyché*), self-referential quintessence, *Ouroboros* (*en to pan* = “one the all”). Compasses do not work there at all. Compasses (geo vs geo) rotate in quasaric lunacy (focuses multiply, targets reciprocate, invisible waves are visualized). ~~Metaorientation~~. Rotation & advertisement (→*advertainment*), circulation. Good chemistry & bad chemistry.

Being magnetized = being *paralyzed* (comatized) & *ecstasized* (trans & trance) [...] being here & there, staying & moving, static & dynamic = “out-of-body” experiences. The user friendly *mediation climate* is operated by friends & foes mutually (gravityless warfare), being both battlefield & bed of lovers (hotbed of ...). Stratas, spheres = linguistic bonds, analogical correlations between geos & socios, stones & bones, limbs & cutlery.

The mediation aether & the mediation traffic.

*Horror vacui, Claustrophobia, Agoraphobia & Astrophobia.*

Information & entertainment industries *have* necessarily fused (→*infotainment*). The relevance of information has changed (documentary→*mockumentary*). No division between fiction & fact (faction?). Mediation between fiction & fact. Mediation & meditation. Business between fiction & fact. Copulation of sensorimotorical & moral coordinates. Climates change.

*Mediation aether* is the most powerful industry, above | beyond industries, meta-industry = *the para-industry*.

The mediation para-industry mediates *for us* to mediate us *for them*.

*Metabiosis? Phoresy? Inquilinism?*

It started<sup>05</sup> with Romanticism (cultivation→ Culture→GMO, the future constructed on foundations consisting of ruins, natural & cultural debris: geology, anthropology, archeology, paleontology, forensics, museology; facing future = the birth of temporaneity: ~~love~~, amorousness = romance [internal affairs vs foreign affairs]; **reality**, fiction = like in roman; the intrest in universality = *lingua franca* (*vehicular* languages, *bridge* languages, *trade* languages) + some need of some heroes = embodiments /

personifications (models, idols, statues, cults ...)  
→*avant-guard* (= that infantile infantry, killed first)  
–individualism–pluralism–liberalism–relativism  
(of time, space, mobility / speed, reach, accessibility, affordability, value & price, mortgages, *natura morta*, *memento mori*, *vanitas*, *nihilism*)  
→consumerism (organised egoisms). Democracy is cyber-romantic. The contemporary is cyber-eclectic (*new*→*now*). Freedom of choice (& combination) & expression. *The contemporary* = eternal temporaneity which needs alot of energies↔ashheaps (cemeteries): debris, waste, fossils, minerals & elements, sources ..., RARE EARTH.

Imperialisms of potentiality (proactive *diaspora*↔proactive *xenos*): left↻right, up↗↘down; ↔west↔north↔east↔south↔ (east = a danger of west / south = danger of north); +×\*÷; the 1st, the 2nd, the 3rd, the X<sup>th</sup> worlds (natures). Imperialisms of virtuality. Imperialisms of creativity. Creativity = *substitution*. Substitution (instruments, devices, tools, weapons<sup>06</sup>) = *prosthetics*.<sup>G</sup>

The world is a consensus\* of *prosthetic* imperialisms.<sup>07</sup>

\*consensus = “*within* senses” / thesis & prosthesis (pros- & cons-)

(Permanent balance *within* the mimetic & the creative, constant conflict *within* the plural & the singular ≈ *oscillations*: everything is just a vibration (irritants of cerebral cortex ...). The brain converts reality via algorithmical schemes (capacity & utilization, electro-chemo). Eyes don't see anything. Eyes only look (the pump called heart beats in darkness. 180 bpm. The *mediation wonderland* is tachycardic.). The brain sees!!! The neuroplastic mind sees taste. Conversion – conversation – controversion – version<sup>08</sup> between tastes & images (apophenic, hallucinogenic, entoptic, mnemonic<sup>F</sup> & logical) & sounds & numbers & words & colours & lights & temperatures & motions & emotions & smells &

touch (transition from ideation to materialisation, 3<sup>d</sup> printing, 3<sup>rd</sup> sex, intermediation ...), stimuluses. Holistics, synaesthetics, aesthetics, ethics, morality. The avatarized<sup>09</sup> brain sees & consequently post produces approximative sub<ultural models (top models & bottom models; top-down models & bottom-up models) out of recycled reality<sup>10</sup> = communicative forms — *metem-psychosis of Phoenix*. The cyborged (... *Terminator, Iron Man, Maria [of Metropolis], Robot, Nyctalope, John A.B.C. Smith, Frankenstein, Golem, Homunculus, Gala-tea, Pandora, Talos, AdamEva*<sup>11</sup> [...] automata, robots, cyborgs, replicants) extensions receive high-er prominence (immaterial limb, invisible hand, telekinesis / teleportation, telepathy, television)<sup>12</sup> than the radical body: “Trust the mnemonic instrument, the *a-machine*, die *Über-Maschine!*”

*Substitute terms are mediators* between letters & numbers / numbers & matters / between *de facto* & *de jure* / between normality & normativity / between knowledge & experience / between explicit, implicit & tacit / between transmitters & receivers / between producers & consumers / between input & output / between income & expense / between bride & groom / between impeacher & defender / between convex & concave / between good & bad / between -logy & -graphy & -nomy<sup>geology & geography & geonomy & geopolitics</sup>, etc.

*Substitute terms are mediators* between pampered theory & corrupted practice.

The final *exact* is negotiated approximately (value & price). Negotiation~communication = poetics. The entire cognition<=>communication sphere is amorphous, approximate, poetic. This poetics is speculative.

The *mediation aether* is a language-oriented environment (standard languages proceed through sensational evolution / explosion of maximalisation<=>minimalisation, “FWIW,” pollexes change their physiology vs pollexes change the physiology of brain) where hybrid particulates *driftingly* compete:

words, numbers, names, titles, brands, labels, schemes (שָׁמַיִם & shame & guilt & fear & pain industries; anger, rage), emanations, signs, symbols, emblems, slogans, icons, domains, tags, modes, codes, encryptions, ciphers, to clarify or to enigmatize (cyber-occult, cyber-esoteric, cyber-hermetic), pirouettes, arabesques, ornaments, *rousing* expressions: muddy delta of massive data; the river which has lost banks & public funds which support private banks; soft-hard, light-heavy,  $2^d-3^{dH}$ , brutto $\leftrightarrow$ netto, micro $\leftrightarrow$ macro marks & gestures.

*Substitutes* legally imitate (samples, mixes, collages, fakes, hoaxes [...] freedom of choice & mixture, hypereclecticism).

*To mediate & to catalyse & to moderate. Mediation & medium:*

communication<sup>education-instruction-training</sup>, transmission-undescribed material between astro-objects, creationism, spiritualism, solution, medium-rare, rare windows, mirroring, reflexion:

objects occur bigger & closer as they are (subjects getting smaller), not one after the other but all together in the *perpetuum mobile*-like entheogenic kaleidoscope.

*Mediums*, following the alchemical chimaera of *Lapis Philosophorum*, are both organic & inorganic, biotic & abiotic; material & immaterial, visible & invisible I, illumination & obscuration<sup>13</sup>, *trans* between ordinary & precious, prosaic & poetic, tenor / ground / source $\leftrightarrow$  vehicle / figure / target, linguistic & nonlinguistic, *trance* between mortality & immortality: the elixir of life, magma, liquid crystal / *chrysopoeia*, liquid intelligence $\rightarrow$ crystallized intelligence, artificial intelligence, peripheral intelligence, eccentric intelligence, central intelligence; agencies & agents.

RARE EARTH is a *medium of mediation aether*.

EVERYTHING went out of *Mother Earth* (& her rights, grounds, soils, muds, slimes & ores; hunters & gatherers, earthlings, statues, automata & robots, natural ≈ artificial<sup>14</sup>)

= *mamma* (universal among Indo-European languages, primordial / impulsive-instinctive / c.n.s.-automatic interjection / *onomatopoeia*);  
= *matrix* – breast / womb (cave, abyss, vulcano, mine, underground, subculture, hell<sup>15</sup>), hunger, desire, lust, love, sex, aggressivity & fear, security, warmth, shelter / haven, *oikos*;  
= *matter* – mass, substance, averum, material.

*Mother Nature* breeds matrices, formulas, patterns, metonymic ~~androids / gynoids~~, hermaphroids, autarkic *iPeople* (megalithic⇒teralithic societies) ≈ things<sup>16</sup>, ●\*. *Mother, matter, material* & (her?) its weight. The weight of load & the weight of evidence. Matter of fact. Hard beats & heavy lyrics, hard rock & heavy metal, infra & ultra, white noise ..., upgraded memories.

#### MATTER MATTERS.

Materialism (*analogue*) was there before idealism (*digital*). Idealism (apophenic *per se*) has appeared as an artificially luminescent (→*Neodymium*⇒*Exo Terra Sun Glo*<sup>®; 17</sup>) solution of obscure, occult, mysterious / mystical / mythical, unembraceable phenomena (human light vs natural dark, idealistic light vs materialistic dark, reactive behaviour) around (“en viron”). Idealism was founded to manipulate (person vs people). Materialism is primordial. Idealism tries to escape neuroplasticity. Magnitudes of (anthropocentric) natural vs supernatural are mutative (*Janus* – conglomerate interfaces). *The matriarchate & the patriarchate*. Materialism-now cummulates polemical materiality vs controversial immateriality.

RARE EARTH is the material (<sup>weight#x</sup>) of immateriality (<sub>weight#y</sub>).

RARE EARTH is the figurative substitute of THE <sup>IM</sup>MATERIALISM NOW.

01) Ai Weiwei; 02) Guan Xiao; 03) Oliver Laric;  
04) Charles Stankieveh; 05) Camille Henrot;  
06) Arseniy Zhilyaev; 07) Otlith Group; 08) Katie  
Paterson; 09) Roger Hiorns; 10) Jean Katambyi  
Mukendi; 11) Erick Beltran; 12) Suzanne Treister;  
13) Julian Charriere; 14) Revital Cohen & Tuur  
Van Balen; 15) Marguerite Humeau; 16) Ursula  
Mayer; 17) Iain Ball.

<sup>A</sup>Edward Wadie Said, *Culture and Imperialism* (London: Vintage Publishers, 1993); <sup>B</sup>Harold Skulsky, "Metaphores," *Nous* 20, no. 3 (1986); <sup>C</sup>Sun Tzu, *The Art of War* (New York: Columbia University Press, 2007); <sup>D</sup>Douglas Richard Hofstadter, *Gödel, Escher, Bach: An Eternal Golden Braid* (New York: Basic Books, 1979); <sup>E</sup>Michael Maier, *Atalanta fugiens, hoc est, emblemata nova de secretis naturae chymica* (Hieronymus Galler von Oppenheim, 1617) [considered as the first multimedia production ever]→H. M. E. de Jong, Michael Maier's *Atalanta Fugiens: Sources of an Alchemical Book of Emblems* (Newburyport: Nicolas-Hays, 2002); <sup>F</sup>Manfred Warnke & Claudia Brink, *Aby Warburg Der Bilderatlas MNE-MOSYNE* (Berlin: Akademie Verlag, 2000); + James David Lewis Williams & Thomas Dowson, "The Signs of All Times: Entoptic Phenomena in Upper Palaeolithic Art," *Current Anthropology* 29, no. 2, 1988; <sup>G</sup>Paul Bach-y-Rita, *Brain Mechanisms in Sensory Substitution* (Waltham, MA: Academic Press, 1972) + Eric R. Kandel, *In Search of Memory: The Emergence of a New Science of Mind* (New York: W. W. Norton, 2007); <sup>H</sup>Edwin Abbott Abbott, *Flatland: A Romance of Many Dimensions* (London: Seely & Co, 1884) + Doinijs Berger, *Sphereland: A Fantasy About Curved Spaces and an Expanding Universe* (New York: Crowell, 1965); <sup>I</sup>Maurice Merleau-Ponty, *The Visible and the Invisible* (Evanston: Northwestern University Press, 1968).

## Magnetic Anomalies in the Arctic Colonial Resource Extraction, Meteoric Cults, and the Rare Earth Age

In 1569, cartographer Gerardus Mercator published his trademarked flattened globe as a bounded, rectangular mathematical projection. Accurately rendering space along a horizontal axis, the East-West vector privileging expedited colonial expeditions to the New World. In the margins of his map, beyond the fantastical sea creatures and mythical gods peering over *terra incognita*, Mercator included an inset of the North Pole region. Of course, at the time no one had any empirical data of this "land beyond the land beyond," however by sheer delineation of space based on a sphere, the mathematical system of the map necessitated that such a space existed and thus essential to include as a rendering. Aside from its grid-based design revolutionizing navigation and trade (still used today from shipping routes to Google Maps), Mercator's map also included the most advanced data visualization—albeit erroneously interpreted. It had long been held as passed down through the literature that at the celestial North Pole stood a massive lodestone or "iron mountain." In the sixteenth century, empirical observation demonstrated that compasses all around the world always pointed north. But since the geological discipline had not yet advanced far enough to reveal that the Earth's molten core made the

"It all began, old Ammi said, with the meteorite."

H.P Lovecraft.  
*The Colour Out of Space*, 1927.

"The Sumerian word AN.BAR, the oldest word designating iron, is made up of the pictograms 'sky' and 'fire.' [...] We shall do well to bear in mind the early religious significance attaching to aeroliths. They fall to earth charged with celestial sanctity; in a way, they represent heaven. This suggests why so many meteorites were worshipped or identified with a deity. [...] Primitive peoples worked with meteoric iron for a long time before learning how to use ferrous ores. [...] This was how the Greenland Eskimos made their knives

1 The legends in the map explain the historical sources, the sources of the data collection, and label the different poles. See: *Septentrionalium terrarum descriptio. Per Gerardium Mercatorem cum privilegio*. 1595. Library and Archives Canada. Mikan no. 3682241, and *Nova et Aucta Orbis Terrae Descriptio ad Usum Navigantium Emendate Accommodata*. 1569. Bibliothèque Nationale de France.

entire planet a magnet, savants mused that a massive magnetic mountain at the top of the world was generating all the attraction. By the time Mercator was filling in his grid however, he noticed a strange magnetic anomaly when aggregating various field recordings from sailors who brought back their data. According to these accounts, compasses did not actually point directly to the North Pole. As a solution for such declination of the magnetic field, Mercator posted a second magnetic mountain, this time in the Behring Strait. Rendered in full color in 1595, the resulting map was the first cartographic document ever to solely focus on the Arctic. Eventually the dual-mountain theory melted away, but the metallic attraction of the Magnetic North never completely subsided. By examining the Canadian Arctic<sup>1</sup>, one can trace a complete *phylogenesis* of metallurgy, starting with the nomadic smiths of the Inuit gleaned meteoric iron for weapons and domestic use, through the birth of cybernetics and networked warfare in the Cold War's Distant Early Warning Line, to the speculative market of Rare Earth Elements in the twenty-first century.

Colonial extraction of natural resources is an ancient strategy; we could argue that such an industry is the engine at the dark heart of colonialism extended across centuries and still very present today. Recent theories have even taken such a connection as a geological index, positing that the Anthropocene Epoch started with the colonial encounter of the Europeans in the New World, generating "the largest human population replacement in the past 13,000 years, the first global

out of meteoric iron. When Cortez enquired of the Aztec chiefs whence they obtained their knives they simply pointed to the sky."

Mircea Eliade,  
*The Forge and the Crucible*, 1956.

"We recently discovered there is actually a Buddhist sect that worships a large, black rectangular slab. The analogy of the Kaaba has also been mentioned. Though I certainly did not have it in mind at the time, the fact that the Black Stone sacred to Moslems is reputed to be a meteorite is more than quaint coincidence."

Arthur C. Clarke,  
*The Making of Kubrick's 2001*,  
1970.

"Stones that fall from the heavens have always been a subject of wonder and bewilderment. Beryl stones (from the Hebrew Beth-el, abode of God) were

2 Simon L. Lewis & Mark A. Maslin. "Defining the Anthropocene," *Nature*, 519, (12 March 2015): 174; see also, Kent G. Lightfoot, Lee M. Panich, Tsim D. Schneider, Sara L. Gonzalez, "European Colonialism and the Anthropocene: A View from the Pacific Coast of North America," *Anthropocene*, Volume 4, (December 2013):101–15.

3 Ibid. 177.

trade networks linking Europe, China, Africa and the Americas, and the resultant mixing of previously separate biotas, known as the Colombian Exchange."<sup>2</sup> It is still difficult to determine when to pound the "Golden Spike" into the stratified layers of rock to demarcate a new epoch, and so several speculative dates have been proposed: the earliest suggestion is Prometheus's fire and the latest marks the explosion of nuclear weapons. Others have suggested larger phenomena such as the invention of agriculture or the Industrial Revolution as the forces responsible for humanity's geological effect on the Earth. The connection between fire, industry and colonialism however is the most convincing argument, transcending regionalism and leaving a long-term trace in the fossil record: "Historically, the Industrial Revolution has often been considered as the most important event in relation to the inception of the Anthropocene. [...] However, in the view of many historians, industrialization and extensive fossil fuel use were only made possible by the annexing of the Americas."<sup>3</sup> Before the introduction of the Anthropocene debate at the turn of the millennium, W.G. Sebald in *The Rings of Saturn* kaleidoscopically wove the history of fire and globalism:

Whatever was spared by the flames in prehistoric Europe was later felled for construction and shipbuilding, and to make the charcoal which the smelting of iron required in vast quantities. By the seventeenth century, only a few insignificant remnants of the erstwhile forests survived in the islands, most of them

revered in the Orient and even made their way into Rome as a god. part of the suite of the roman emperor Heliognbalus. The Ensisheim stone. which fell on 7 November 1492 in Alsace was considered by the Holy Roman Emperor's son Maximilian to be a good omen in his war against the French. Being heavenly signs, meteorites were not considered as scientific objects during the Renaissance, Classical age nor the Enlightenment. Despite the occurrence of numerous meteorite falls. it was only in the late 18th century that the European scientific community envisioned the nature and origin of fallen stones as a scientific question."

Matthieu Gounelle.  
*The meteorite fall at L'Aigle and the Biot report*. 2006.

untended and decaying. The great fires were now lit on the other side of the ocean. It is not for nothing that Brazil owes its name to the French word for charcoal. [...] Combustion is the hidden principle behind every artefact we create. The making of a fish-hook, manufacture of a china cup, or production of a television programme, all depend on the same process of combustion. Like our bodies and like our desires, the machines we have devised are possessed of a heart which is slowly reduced to embers. From the earliest times, human civilization has been no more than a strange luminescence growing more intense by the hour, of which no one can say when it will begin to wane and when it will fade away. For the time being, our cities still shine through the night, and the fires still spread. In Italy, France and Spain, in Hungary, Poland and Lithuania, in Canada and California, summer fires consume whole forests, not to mention the great conflagration in the tropics that is never extinguished.<sup>4</sup>

While fire is a general theme, new technologies demand specific raw materials, including what are called Rare Earth Elements (REE). Such elements are required, as Sebald points out, to illuminate television screens along with a host of other advanced technologies. One REE is called promethium and it is used to create nuclear batteries and luminescent paints. “Rare” is a relative term here as the seventeen elements composing

“The Pennacook myths, which were the most consistent and picturesque, taught that the Winged Ones came from the Great Bear in the sky, and had mines in our earthly hills whence they took a kind of stone they could not get on any other world.”

H. P. Lovecraft,  
*The Whisperer in the Dark*, 1931

“The concept that true history is natural history emancipates the objects of nature from the government of man. For the idea of singularity it is significant [...] that geological phenomena—taken in their widest sense to include specimens from the mineral kingdom—constitute landscape forms in which natural history finds aesthetic expression. [...] The final stage in the historicizing of nature sees the products of history naturalized. In 1789, the German savant Samuel

- 5 Frik Els, "Canada Wants 20% of Global Rare Earth Market by 2018," *Mining.com* (8 January 2014): <http://www.mining.com/canada-wants-20-of-global-rare-earth-market-by-2018-27834>. Accessed: April 15, 2015.
- 6 It is debated why China limited RRE exports. One argument proposes China was trying to regulate and control the massive ecological damage resulting from cheap REE production, while another argument states China was manipulating market prices and attempting to keep REE resources for domestic manufacturing—the export restrictions only effected raw REE and not products containing REE. Much of the facts in the paragraph come from Canadian government: *Rare Earth Elements - Special Mineral Feature*, Minerals and Metals Sector, Natural Resources Canada, (2011). PDF. Source: <http://www.nrcan.gc.ca/mining-materials/markets/canadian-minerals-yearbook/2011/11794>. Accessed: April 15, 2015.

this class are not so much "scarce" in the Earth's crust, but rather "extraordinary" in the sense that they were discovered later as it was difficult to isolate the pure element from ores and each other. Furthermore, we treat them as "unique" because they found uses almost exclusively in the contemporary high tech industry and thus did not have an industrialized smelting process for extraction until very recently. Today, REEs are an index of the global situation, articulating international trade, market trends, security policy, and geopolitical issues. While Canada might have a monopoly on the tailing ponds of the Tar Sands, it is China's 97% of the REE market, mostly in Mongolia, that dominated in 2011. However, with a projected 40–50% of the world's REE deposits, Canada hopes to secure 20% of the international market by 2018.<sup>5</sup> Such numbers set a high target considering as of the writing of this text there are still zero active mines in the Arctic (Canada and Greenland). This is not to say however that Canada is not ambitiously pursuing extraction of such resources in the Arctic region—complimenting diamonds, petroleum, and other resource extraction. In 2011, Canada had 206 prospective projects—a backlash driven by China's tightening control of REE exports resulting in both an increase in market cost as well as fear of supply chain security for military production in Western countries.<sup>6</sup> According to the Government of Canada the top two most advanced Rare Earth mining sites shifting from speculative prospecting to active mining are both imaginatively named after spiritual lineages—but neither after local indig-

Witte-basing his conclusions on the writings of Desmarests, Duluc and Faujas de Saint-Fond-annexed the pyramids of Egypt for nature, declaring that they were basalt eruptions; he also identified the ruins of Persepolis, Baalbek, Palmyra, as well as the Temple of Jupiter at Agrigento and the Palace of the Incas in Peru, as lithic outcroppings." Barbara M. Stafford. "Toward Romantic Landscape Perception: Illustrated Travels and the Rise of 'Singularity' as an Aesthetic Category," *Art Quarterly*, n.s.l. 1977.

"On the edge of this prehistoric Machine. [...] the landscape was no landscape, but "a particular kind of heliotypy" (Nabokov), a kind of self-destroying postcard world of failed immortality and oppressive grandeur [...] I am convinced that the future is lost somewhere in

7 The indigenous name for the area of Lake Thor is Nechalacho. I am unable to determine where or when the Thor name was implemented, however it is officially used at the cartographic, corporate, and government levels.

8 Mircea Eliade, *The Forge and Crucible: The Origins and Structure of Alchemy* (Chicago: University of Chicago, 1956), 28.

enous spiritual traditions. *Ashram* is in the northernmost region of Quebec and *Lake Thor* in the Northwest Territories.<sup>7</sup> *Lake Thor* is the most advanced project outside of China for Heavy Rare Earth Elements and will extract europium and terbium for the phosphorescence in TVs, dysprosium for nuclear reactors and data storage, as well as the super magnetic neodymium for lasers and wind turbines.

Thor is one god among many forging a correlation between metallurgy and spirituality, according to historian of religion, Mircea Eliade, who conjectured that the origin of many religious rituals and worship was generated by meteorite impacts. Easily the most spectacular event one could witness in ancient times, meteorites were, by proxy, holy objects from the heavens. In a time before mining, archaeometallurgists estimate, such pure sources of iron alloy were extremely rare and valued more than gold, copper, and silver—the earliest worked metals since they were found on the surface of the Earth in pure elemental form and malleable at low temperatures. Gold, however, was used for decoration, and it was the iron from the gods reserved for sacred talismans and weapons. It has long been surmised that the *Al-Hajaru al-Aswad*, the “Black Stone” embedded in the eastern corner of the *Ka’aba* in Mecca, is a meteorite while, as Eliade wrote, “Bedouins of Sinai are convinced that the man who is successful in making a sword of meteoric iron becomes invulnerable in battle and assured of overcoming all his opponents.”<sup>8</sup> The Cape York meteorite, one of the largest to have ever been discovered, supplied iron for the Inuit in Greenland before European contact. Chiseling flakes off the meteorite provided sharp metallic heads for spears to hunt and knives

the dumps of the non-historical past; it is in yesterday’s newspapers, in the jejune advertisements of science-fiction movies, in the false mirror of our rejected dreams. Time turns metaphors into things.”

Robert Smithson.

*A Tour Of The Monuments Of Passaic*, New Jersey. 1967.

“The anthropologist cannot always leave his own shadow out of the picture he draws.”

Ursula K. Le Guin.

*The Word for World is Forest*. 1972.

“Everywhere a hole moves, a surface is invented. When the peripheral upheaval of (hole) complex spreads from the crust to within, the despotic necrocratic regime of periphery-core, for which everything should be concluded and grounded by the gravity of the core, is deteriorated. The

- 9 Patricia A. M. Huntington, "Robert E. Peary And The Cape York Meteorites," *Polar Geography*, 26, No. 1 (2002): 53–65; A. Kracher, G. Kurat, and V. F. Buchwald, "Cape York: The Extraordinary Mineralogy of an Ordinary Iron Meteorite and its Implication for the Genesis of III AB Irons," *Geochemical Journal*, Vol. 11 (1977): 207–17.
- 10 Claiming to be the first man to reach the North Pole, over time Peary's claims became less and less believed.
- 11 Helen Sawyer Hogg, "Out of Old Books (Peary and the Cape York Meteorites – The Saviksue)," *Royal Astronomical Society of Canada Journal*, Vol. 57, No. 1 (Feb, 1963): 41–8.
- 12 For one of the more extreme versions by the Canadian government, see: Melanie McGrath, *The Long Exile: A Tale of Inuit Betrayal and Survival in the High Arctic*. London: Fourth Estate, 2006; and the documentary: Zacharias Kunuk, *Exile*. Isuma Productions, 2008.

to cook.<sup>9</sup> At the turn of the twentieth century dubious polar adventurer and American Rear Admiral, Robert E. Peary, convinced the Inuit to show him the meteorite fragments and he spent several years logistically extracting the immense objects and shipping them to the American Natural History Museum in New York City for a bounty.<sup>10</sup> In the official record of his discovery of the meteorite, Peary (as of yet to venture on his North Pole expedition) echoes the ancient mythology of the north by referring to—or quoting the indigenous, it is uncertain where the description originated—the meteorite as "Iron Mountain."<sup>11</sup> Today the Cape York meteorite is the largest *aerolith* on display in the world. Inversely occupying its place just around the peninsula from Cape York back in Greenland, the colonial outpost of the American Thule Air Force Base serves as a logistical hub and communications node for Arctic mobilization and surveillance.

Thule was established as a permanent settlement by Robert E. Peary and shortly thereafter given the Greek name *Ultima Thule*—meaning beyond the borders of the known world—by the missionary Knud Rasmussen. In the 1950s the local Inuit people of the region and in several other locations in the Arctic, were subject to government relocation—one of several strategies used by colonial occupying forces in the Arctic that either relocated Inuit people in order to annex strategic sites or forced them into exile to occupy contested territory.<sup>12</sup> It was during this time that Thule became a key station in the Distant Early Warning (DEW) Line. A logistical and technical *tour de force* of the American military industrial complex during the Cold War, the DEW Line was an electromag-

dismantling of the coherency between the periphery and the core is equal to the rise of the ultimate unground where the radical Outside is posited from surface to the core.

Military and political practitioners have long formulated as an archaeological law the asymmetry between ground's consistency and the consistency of poromechanical entities or porous earth: For every inconsistency on the surface, there is a subterranean consistency. [...] archaeology, with its ingrained understanding of Hidden Writing, will dominate the politics of future and will be the military science of twenty-first century."

Reza Negarestani.  
*Cyclonopedia: Complicity with Anonymous Materials*. 2008.

13 For a thorough overview of the cultural discourse and political environment that early computer systems such as SAGE were producing, see: Paul Edwards. *The Closed World: Computers and the Political Discourse in Cold War America*. Cambridge: MIT Press, 1996 (especially Chapter 2). For a first-person history of the development of the technology, see: F. Robert Naka and William W. Ward, "Distant Early Warning Line Radars: The Quest for Automatic Signal Detection," *Lincoln Laboratory Journal*, Vol. 12, No. 2 (2000): 181–204.

netic curtain extended across the Western ice cap designed to alert mainland USA of incoming USSR bombers carrying nuclear warheads. The electronic infrastructure that connected these remote outposts—iconically remembered as white Buckminster geodesic domes—was the birth of cybernetics and early network design. With incredible resources backing the research and development as an emergency measure to protect against another Pearl Harbor, Lincoln Labs, MITRE, MIT, IBM, Western Electric, AT&T, and the Defense Department partnered to create the first semi-automatic responsive air defense system that was moreover the initial example of networked real-time processing in relation to stored memory.<sup>13</sup> Called SAGE (Semi-Automatic Ground Environment), the processing power and artificial nervous system reached out all the way to the farthest reaches of the Arctic via the DEW Line—including to Thule. And in order to materially make the green radar screens glow and sonic alarms go ping, newly found uses for Rare Earth Elements necessitated extraction and refinement to roll out the components on the post-war assembly line. Sequestered in the bunker control rooms in New England and Cheyenne Mountain or isolated in the geodesics of the DEW line outposts, humans started to share their analyses and processing with the machine. Specifically designed for the outposts of the Arctic—and thus foreshadowing the future outer space missions—the infrastructure for a skeleton crew necessitated automated signal processing to support their human sentinels watching out for bogey signals travelling amongst the *aurora borealis* as ghost riders from the future.

"Information technology is always already strategy or war."

Friedrich Kittler.  
*Discourse Networks*  
1800/1900. 1985.

"Mr. Schmidt, the executive chairman of Google, and Mr. Cohen, a former adviser to Condoleezza Rice and Hillary Clinton who is now director of Google Ideas [...] met in occupied Baghdad in 2009, when the book [The New Digital Age] was conceived. Strolling among the ruins, the two became excited that consumer technology was transforming a society flattened by United States military occupation. They decided the tech industry could be a powerful agent of American foreign policy."

Julian Assange.

"The Banality of 'Don't Be Evil.'" *New York Times*. 2013.

14 "In Project Charles, at MIT, a committee of distinguished scientists spent the first six months of 1951 looking into the air defense problem and recommended establishing an air defense laboratory (the eventual Lincoln Laboratory). The East River study of summer 1951, under the Air Force and the National Security Resources Board, found civil defense measures not only dependent on adequate early warning (requiring a much improved radar network) but useless without highly effective air defense." Paul Edwards, *The Closed World*, 93. Arthur C Clarke's "Sentinel of Eternity" was initially published in the first and only issue of the magazine *Ten Story Fantasy* in 1951.

15 Stanley Kubrick quoted in *The Making of Kubrick's 2001*, ed. Jerome Agel (New York: Signet, 1970), 330; also, Arthur C. Clarke: "M-G-M doesn't know it yet, but they've footed the bill for the first \$10,500,000.00 religious film," in *ibid.*, 10.

While a think tank was determining in 1951 America's most urgent security threat required the continental early warning system of SAGE/DEW, the British physicist and science fiction author, Arthur C. Clarke was publishing his short story "Sentinel of Eternity" about a galactic early warning system positioned on the Moon to sense the emergence of intelligence on Earth.<sup>14</sup> Eventually, the narrative was reworked with filmmaker Stanley Kubrick to create a contemporary rendition of the metallurgical mythology first established in the worship of meteorites. *2001: A Space Odyssey* (1968) was the first spiritual work for the Rare Earth Age, or as Kubrick told *Playboy*: "I will say that the God concept is at the heart of *2001* — but not any traditional, anthropomorphic image of God. I don't believe in any of Earth's monotheistic religions, but I do believe that one can construct an intriguing scientific definition of God."<sup>15</sup> The main shift from the short story to the film lies in the transposition of a passive beacon on the Moon to an intervention on Earth. The magnetic anomaly of the Monolith/Meteorite lands on the Earth and establishes a techno cult enacted by the recently converted *homo faber*. Echoing in fictional narrative a fictional history, *2001* repeats the fantasies of early European explorers by positing an imaginary magnetic anomaly in the margins of their world. On Earth it was the dual Magnetic North Poles used for navigation by compass, on the Moon a magnetic Monolith sending a signal leading an odyssey toward Jupiter.

In stark summary, *2001* synthesized Schopenhauer's Will, Feuerbach's critique of anthropogenic deities, and the Nietzschean Superman—all within the strict invention of the Wagnerian darkened theatre—to propel us with a parabolic gravita-

- 16 For the purpose of this text, I am restricting my interpretation of *2001* to the singular cinematic collaboration between Clarke and Kubrick and not the entire fictional universe later expanded by Clarke with literary sequels that allow within the series complexities as well as inconsistencies.
- 17 Carl Freedman, "Kubrick's 2001 and the Possibility of a Science-Fiction Cinema," *Science-Fiction Studies*, Vol. 25 (1998): 300–18 (314); Stanelly Kubrick, *The Making of Kubrick's 2001*, ed. Jerome Agel, (New York: Signet, 1970), 331.
- 18 I acknowledge the climax of the film pictures the reborn Bowman as the Star Child floating in orbit around the Earth, yet the scale of the fetus problematizes the assumption that after a passage through technology one physically returns home to the material Earth. Regardless, returning as a spirit negates the need, and thus care, for a material Earth.
- 19 Nicolai Fedorov, "The Common Task," in *The Accelerationist Reader*, ed. Robin Mackay and Armen Avanessian, trans. E. Koutaissoff and M. Minto (Falmouth: Urbanomics, 2014), 86.

tional slingshot through Deleuze's "folding, unfolding, refolding" of spacetime and into the Baroque windowless Monad of David Bowman's last resting place framed by the draping curtains of the flying machine-cinema screen.<sup>16</sup> As such *2001* is traditionally received as a utopian film that directs us through the *phylogenesis* of consciousness as benignly directed by what some critics have called an "Overmind" and what Kubrick himself has called "beings of pure energy and spirit."<sup>17</sup> However, even within this neutered-optimistic trajectory toward the transubstantiation of the Star Child, the Earth is left behind. With all the mystery "out there" and zero gravity ballet paid for with dead bones, the embrace of the non-anthropomorphic results in leaving Spaceship Earth.<sup>18</sup> Echoing the first cosmic theorist Nicolai Fedorov's desire to escape "the slow destruction of our home and graveyard,"<sup>19</sup> Kubrick's humanity accelerated through Earth's resource extraction and escaped the gravitational field of the "terrestrial craft" in order to excavate a second Monolith on a new world. For all the film's brilliance as a work of art and cult status for a new generation experimenting with psychedelics and cybernetics, it is worth considering the critique of feminist science fiction writer Ursula K. Le Guin of such narratives:

If science fiction is the mythology of modern technology, then its myth is tragic. "Technology," or "modern science" (using the words as they are usually used, in an unexamined short hand standing for the "hard" sciences and high technology founded upon continuous economic growth), is a heroic undertaking, Herculean, Promethean, con-

20 Ursula K. Le Guin, "The Carrier Bag Theory of Fiction" (1986), in *Dancing at the Edge of the World* (New York: Grove Press, 1989), 169–70..

21 Walter Burkert. *Homo Necans: Interpretationen Altgriechischer Opferriten und Mythen*. Berlin: De Gruyter, 1972; English: *Ibid. Homo Necans: The Anthropology of Ancient Greek Sacrificial Ritual and Myth*. Trans. Peter Bing. Berkeley: University of California, 1983.

ceived as triumph, hence ultimately as tragedy. The fiction embodying this myth will be, and has been, triumphant (Man conquers earth, space, aliens, death, the future, etc.) and tragic (apocalypse, holocaust, then or now).

If, however, one avoids the linear, progressive, Time's-(killing)-arrow mode of the Techno-Heroic, and redefines technology and science as primarily cultural carrier bag rather than weapon of domination, one pleasant side effect is that science fiction can be seen as a far less rigid, narrow field, not necessarily Promethean or apocalyptic at all, and in fact less a mythological genre than a realistic one.

It is a strange realism, but it is a strange reality.<sup>20</sup>

This is not to say that Kubrick lacked a critical voice; the murderous computer HAL in the film is a subtle letter transposition of IBM, possibly warning of the dangers of automated systems; *The Shining* (1980), using the horror genre, is a moral tale critiquing the colonial genocide of Native Americans. While it is easy to see the danger with the machine HAL due to its direct fatal actions, we start to question what is the difference between HAL and the machine of the Monolith. While most attention is given to the Monolith's responsibility of sparking proto-human consciousness, it is important to remember that this was done through the wielding of a weapon: the dawn of *homo necans*.<sup>21</sup> In the most famous cinematic edit of all time, from ballistic bone to spaceship, Kubrick cuts out the dark side of space travel. Rockets were invented

22 Kubrick's immediately preceding film *Dr. Strangelove* (1964) looked at this exact threat—albeit with the outdated, yet much more theatrical, bombers delivering nukes. In 1961, the Ballistic Missile Early Warning System (BMEWS) replaced the DEW Line.

23 Karl Marx, "Fragment on Machines," in *The Accelerationist Reader*, 53. Originally from *Grundrisse der Kritik der Politischen Ökonomie* (1858).

24 Philip K. Dick, *Do Androids Dream of Electric Sheep?* (New York: Doubleday, 1968).

as a loophole in the Treaty of Versailles and first designed as Vengeance Missiles (V-2) by the Nazis under Wernher von Braun. At the time of Kubrick's film, Inter-Continental Ballistic Missiles (ICBMs) flying over the Canadian Arctic with nuclear payloads were the most serious global threat.<sup>22</sup> We must ask what is behind the dream of the Star Child, or, as Gil Scott-Heron sang in 1970, why in *2001* is only "Whitey on the Moon"? Re-interpreting *2001* against the grain of a Promethean epic, and recognizing that today we are stuck more on the Earth than we were when the film *2001* was playing in the cinemas, we begin to see what is the possible end game when we smelt more metal for machines. As Marx warned, "Once adopted into the production process of capital, the means of labour passes through different metamorphoses, whose culmination is the machine, or rather, an automatic system of machinery ... so that the workers themselves are cast merely as its conscious linkages."<sup>23</sup> The question is not *Do Androids Dream of Electric Sheep?*<sup>24</sup>, it is, "Do Rare Earth Elements Dream of Humans?" Considering that we are not part of the *Elysium* elite and do not have another planet to escape to—as if this one was as disposable as the planned obsolescence of our consumer technology powered by Rare Earth Elements—our understanding must shift from mining more Rare Earth to understanding how rare is our Earth.

Exhibition



































# COLOPHON

Rare Earth

**Exhibition—Rare Earth**

February 19–May 31, 2015  
Thyssen-Bornemisza  
Art Contemporary–Augarten  
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A-1020 Vienna

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[davidrudnick.org](http://davidrudnick.org)  
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Core Sample*, 2012, Courtesy  
of the artist and Magician  
Space; Camile Henrot, *Grosse  
Fatigue*, 2013, Courtesy of the  
artist, Silex Films and kamel  
mennour, Paris; Roger Hiorns,  
*Untitled*, 2012, Courtesy  
of Annet Gelink Gallery,  
Amsterdam; Oliver Laric, *Sun  
Tzu Janus*, 2013, Courtesy of  
the artist; The Otolith Group,  
*Anathema*, 2011, Courtesy  
LUX; Katie Paterson, *Campo  
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## Rare Earth

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