

# Large Scale Processes and Scaled Down Representations During the Anticipation of the Impending Death of the (Civilized) World

## Introduction for: A Register of Exemplary *World Accessing Models*

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Lilian Haberer at the KHM, 2017.

### CHAPTERS:

1. Programing A Reality
2. A Reality In The Distance
3. The 2 Time Distant Image
4. Informational And Infrastructural Excess
5. Vast Nature
6. Opaque Representations
7. Access 3
8. Help Out Reality By Denouncing It As Fiction

### 1. Programing A Reality

To tackle the problem of deciphering the physical reality, the science community has build the largest man made structure, the Large Hadron Collider (LHC), which sets out to catch the smallest possible thing: an all containing particle that encapsulates a sort of blueprint of nature, a manual for the material and non-material set up of the natural reality.<sup>1</sup>

And indeed, an abundance of potential information about how the perceived reality is set up bursts out of places such as the LHC. However, it flows in such extreme quantity that it is to some extend unprocessable. Way too much unordered reality is flowing out at once, and such *reality overflow* rather blurs then clears the way to a precision of reality.<sup>2</sup>

Of course information on the natural world has always been in abundance. But the processability of this information was only considered to be partly possible since the invention of computing power.

<sup>1</sup> ASTRONOMIE, ASTROLOGIE UND FINANZMARKT, Gespräch mit, Astro-Ökonomin Annika Dant, Max Stocklosa,

<sup>2</sup> “Approximately 600 million times per second, particles collide within the Large Hadron Collider (LHC). Each collision generates particles that often decay in complex ways into even more particles. Electronic circuits record the passage of each particle through a detector as a series of electronic signals, and send the data to the CERN Data Centre (DC) for digital reconstruction. The digitized summary is recorded as a “collision event.”  
Measuring Infinity (STRATAGRIDS), in: Grain Vapor Ray, MIT Press, Cambridge/London, 2014.

Such effort does not only aim for an ultimate understanding of reality, but subsequently for the ability to *acquire* the information within the natural to turn it into a programmable object. It is thus neither anymore about the representation of the real, nor about the mimicry of it, but about programming it itself

Worth a mention that, whoever is involved in such tasks, would actually need to believe that nature works similar to a computer...

Nevertheless, the physical reality – as a solid legitimate, verifiable truth at hand - has never been satisfyingly captured, nor grasped.

No one dares to prove it  
but no one does the opposite...

## 2. A Reality In The Distance

Today, virtually more is known and this machine-based knowledge-gathering (hands and eyes less so) is exponentially rising.

However, while a profound amount has been discovered within environmental and extraterrestrial physical processes, most of it stays out of range of a bodily experience. It is sensually out of reach as explained by Buckminster Fuller:

“We began to discover all kinds of new chemical, biological, and electromagnetic behaviors of the invisible realm so that today 99.999 percent of the search and research for everything that is going to affect all our lives tomorrow is being conducted in the realm of reality nondirectly contactable by the human senses.”<sup>3</sup>

The non-direct encounter mentioned by Fuller ends up to be primarily visual which appears in the transformed form of media technologies such as microscopic images or diagrammatic graphics. It is ultimately an invisible reality that relies upon images to be factual or truthful. This is well depicted in an account told by Susan Schuppli:

“At the turn of the nineteenth century in Germany, Joseph von Fraunhofer embarked upon a series of experiments exploring the optical spectrum of the sun. His work would eventually come to be used by scientists to determine the chemical composition of a remote object — our sun, some 149.6 million kilometres away — not through direct testing but by treating it as an image, one whose chromatic variance could be translated into the complex language of chemistry. (...) His bold assertion that the essence of objects could be determined by virtue of the aesthetic judgment of chemistry would prevail, setting the course for the primacy of the visual in deliberating truth claims.”<sup>4</sup>

This example implies that the (human) perception and making of reality is directly

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<sup>3</sup> Guinea Pig B: The 56 Year Experiment, R. Buckminster Fuller, Critical Path Publishing, California, 1982.

<sup>4</sup> Dirty Pictures, Susan Schuppli in: Living Earth Field Notes from the Dark Ecology Project 2014 – 2016, Sonic Act Press, 2016.

bound to images, since here, images are the main proof of the suns physical and chemical reality. Thus these images are not anymore only representations but for now, (however fuzzy) a main form of experience.

### 3. The 2 Time Distant Image

The distance to the object is a main base for relationships between human and non-human agents. This remoteness is not only accomplished during the look through a telescope but also when using a microscope, as demonstrated joyfully in the educational clip *Powers of Ten*<sup>5</sup>, where infinity can be found on both ends, at the miniscule as well as the humongous.

So, in order to see something, you either need to take a step back or immerse yourself. No matter which way you decide to look, there is still no machine at hand that has reached the wall that sets the limits of vision.

#### *1<sup>st</sup> Distance by scale*

The very first remote sensor *sputnik* would take a huge step back to depict the earth from afar. However it did not provide a *full picture* of the planet but rather the opposite. A very fractured and abstract visuality was produced, one that aligned well with the concept of the map, which is based on the operation of calculus.

#### *2<sup>nd</sup> Distance by empathy*

Sattelite images purposefully only show a fraction of the surface information and its relations to one another. They are devoid of living organisms as well as specific political, social or cultural relations. Since they lack these complex coherences by design and employ a non-emphatic gaze, they encourage and simplify the utilization of the object which is kept at a save distance. This lack is prevalent since they are not representations strictly speaking, but data themselves. They are only part of a chain of actions, commands or protocols. This is what Farocki once called *operative images*.<sup>6</sup> Land-scans are understood as faulty proof objects of scientific precision. An objective machinic-vision opposed to subjective moodiness. Similar to Fraunhofer's images of

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<sup>5</sup> "Powers of Ten takes us on an adventure in magnitudes. Starting at a picnic by the lakeside in Chicago, this famous film transports us to the outer edges of the universe. Every ten seconds we view the starting point from ten times farther out until our own galaxy is visible only as a speck of light among many others. Returning to Earth with breathtaking speed, we move inward-into the hand of the sleeping picnicker- with ten times more magnification every ten seconds. Our journey ends inside a proton of a carbon atom within a DNA molecule in a white blood cell."  
Powers Of Ten, Charles and Ray Eames, IBM, 1977.

<sup>6</sup> (...) Denn einerseits verwirklicht sich in den «operativen Bildern» die Utopie, dass es eine Eigengesetzlichkeit und Autonomie des Bildes geben muss, die nicht auf sprachliche Vermittlung, Übersetzung und Kommentierung angewiesen ist. Es sind Bilder, die selbst arbeiten und vollständig auf der Ebene der Objekte und prozessualen Vollzüge agieren. Andererseits jedoch löscht sich das Bild als Bild in dieser Operativität zugleich aus; es ist nicht mehr als Bild, sondern nur noch als mathematisch-technische Operation gefragt.  
Daniel Eschkötter und Volker Pantenburg, <http://www.zfmedienwissenschaft.de/online/web-extra/was-farocki-lehrt>  
(last access: 17.03.2017)  
Harun Farocki, *Auge/Maschine*, 2000.

the sun, they only show what the machinic-vision is programmed to see (for example: resources or vegetation via infrared light)<sup>7</sup>.

#### 4. Informational And Infrastructural Excess

Since the orbiting of sputnik, environmental sensors have multiplied and they are deployed remotely and non-remotely. This allows for the world to be turned into a quantifiable, governable, utilizable, programmable whole.<sup>8</sup> An all-encompassing vision of the earth seems to be right at hand. But at the same time one is confronted with a “too much world”<sup>9</sup> (as in the LHC). The frequently quoted Borges story<sup>10</sup> of the 1-to-1map, in which the sky darkens, has actualized in the blurring of the senses via an overstimulation of signals, leading to info fatigue and even a “state of collective collapse”.<sup>11</sup> Or as Benjamin Bratton observed:

“One persistent irony of Modernity’s auto-technologization is that as the capacity for very high resolution representations of worldly space scales quantitatively, our own individual and collective abilities to comprehend and access the world as a coherent situation correspondingly wane.”<sup>12</sup>

Suddenly the real world seems to vast for comprehension, simply because the data is just as vast.

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<sup>7</sup> For an extensive list of remote sensors and their use of visible and invisible infrared, thermal infrared, and microwave portions of the electromagnetic spectrum see: <https://earthdata.nasa.gov/user-resources/remote-sensors>.

Notes:

- Satellites harvested information from the globe in the true sense of the word. Among the wide range of data collected, they would scan the surface for potential resources to be taped into.
- Apparently the ability to gaze onto the planet from afar, enabled information gathering that would had taken hundreds of years before. See Spiegel article: 15.01.1958, SPUTNIK-ABSTURZ Der Geister-Satellit, Der Spiegel "In den ersten paar Wochen ihres Fluges" (...) "lehrten uns die künstlichen Erdsatelliten mehr über die Gestalt der Erde als die zweitausendjährige Beobachtung unseres natürlichen Satelliten, des Mondes. Die Satelliten drängen Jahrhunderte himmlischer Bewegung in ein paar Wochen zusammen."
- Opposed to the traditional map, remote sensing technology is not so much being used to represent but to extract information from the globe. Or does it rather project information onto the globe?

<sup>8</sup> Paraphrased from Susan Schuppli via Susan Sonntag for Width Gap Infinitude, Reader, STRATAGRIDS & HITF (Human Interference Task Force) MINIBAR, Stockholm / Berlin, 2016.

<sup>9</sup> Hito Steyerl in “Techniques of the Observer: Hito Steyerl and Laura Poitras in Conversation,” Artforum, 2015.

<sup>10</sup> Jorge Luis Borges, "On Exactitude in Science", 1946.

<sup>11</sup> Franco ‘Bifo’ Berardi in a text that is based on a panel talk (together with Nina Power) by Bifo during the event ‘We Have Our Own Concept of Time and Motion’, organised by Auto Italia in collaboration with Federico Campagna, Huw Lemmey, Michael Oswell and Charlie Woolley in August 2011. <https://libcom.org/book/export/html/45057>, (last access: 17.02.2017)

<sup>12</sup> Bratton, B. H., 2012. What We Do is Secret: Paul Virilio, Planetarity, and Data Visualization, 2012, Available at: <http://www.bratton.info/projects/texts/what-we-do-is-secrete/> (last access: 17.03.2013).

This twofold development of the technological sensors and the information that comes out of them is the time in which “informational globalism” coincides with “infrastructural globalism”.<sup>13</sup> On the one hand we have an excess in scale and numbers that pours in and out of technological devices. On the other, more and more sensorial technology is deployed to increase this info flow. This development peaked in 2008, when it was announced, that machine-2-machine (M2M) communication had outperformed any other communication.<sup>14</sup> Suddenly, an autonomous sphere for signal exchange existed. A parallel running, machinic-community.

## 5. Vast Nature

Alongside the aforementioned excess, providing *too-vast of a view*, one is confronted with a change of global geological processes. These transformations exceed the capability of human-vision in spatial as well as timely scales. One central thing that the popularized Anthro- or Capitalocene<sup>15</sup> has shown vividly, is that the images which we’ve gotten used to as representation for global scale processes might be inadequate and don’t do more than allowing to be an aesthetic effect as Timothy Morton suggests.

“The hole is the ozone layer is but one such image; its vastness escapes easy capture except by simulation and data visualisation and thus is only ever experienced as a localised “aesthetic effect”, a sunburn (...)”<sup>16</sup>

Whereas T.J. Demos goes further by suggesting that images and specifically the medium of photography is all together useless for the representation of the critical global state that lies ahead of us.

“(.) the expanded spatial and temporal scales of geology pressure, if not altogether exceed, human comprehension, and thereby present major challenges to representational systems. (...) pictorial conventions of landscape photography — even those of photography at large — suddenly become far from adequate.”<sup>17</sup>

<sup>13</sup> Paul Edwards, *A Vast Machine*, MIT Press, 2013.

<sup>14</sup> Some commentators suggest that the defining moment for implementing the Internet of Things was in 2008, when machinic connectivity to the Internet outnumbered human connectivity.<sup>25</sup> Sensing occurs across things and people, through environments and within infrastructures. People- to- people communication is becoming a smaller proportion of Internet and networked traffic in the complex array of machine- to- machine (M2M), machine- to- people (M2P), and people- to- people (P2P) circuits of communication.

Jennifer Gabrys, *PROGRAM EARTH*, Environmental Sensing Technology and the Making of a Computational Planet, University of Minnesota Press, 2016.

<sup>15</sup> Donna Haraway, *Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making Kin* History of Consciousness, University of California, Santa Cruz, USA  
<http://environmentalhumanities.org/arch/vol6/6.7.pdf> (last:access: 28.02.2017)

<sup>16</sup> Timothy Morton, *Hyperobjects*, University of Minnesota Press, 2013.

<sup>17</sup> TJ Demos, selected commentaries on the visual politics of the Anthropocene, Fotomuseum Winterthur blog, 2015, [https://www.fotomuseum.ch/en/explore/still-searching/authors/26409\\_tj\\_demos](https://www.fotomuseum.ch/en/explore/still-searching/authors/26409_tj_demos) (last access: 20.02.2017).

So despite the increasing availability of processing power, high res. optical technology, and modes of representation, one is no closer in successfully depicting the problems of the current physical reality around us in a manner, which provokes a collective idea for change. Thus, images (or any other representational modes) might currently have lost any credibility or capability. For now, there seems to be literally no image available provided by any image producing community. Which makes a critical image practice all the more pressing.

On the other hand, the reality of an ecological thread triggered by capitalistic excess modes is getting dangerously close ... Meaning that the natural itself is coming very close with its threat of impending doom.

This closeness (opposed to the mentioned remoteness) is then, the *optical regime of the natural* that might so far be the only vivid reminder of an existing physical world that unfolds right before our eyes.

This natural image regime is of course not image based but rather nature in full effect, a very direct sensual impact on whole biological organisms.

It might be an obvious observation, that nature itself provides the best image of itself. But this *natural image* was never in such close competition with the representational counterpart as it is nowadays. The further the depiction of catastrophes turn out to be day to day real events, the closer this reality creeps up onto its representation, wherefore the representation starts to show its obsolescence.

The *natural image* only comes into pictorial being, when nature actually happens in the form of a violent event. At this very moment, the competing image representations (of such happening) display their incapability most obviously.

## 6. Opaque Representations

Another twisted and problematic factor of representations is that they are often black boxed:

If today, the truthfulness of experience rests on the capability of representations, then representations as a tool for seeing and knowing need to be understood as much as the thing that is represented. In consequence this means that, in order to understand the representational tool one might need a secondary tool that would take a closer look at the representation tool.

Modeling tools of complex systems or occurrences tend to turn out so complex in themselves that the model maker or the one that uses or looks at it, is unable to understand all inherent complexities. This *black box phenomenon* often occurs when some device or logic is set up, which is supposed to help understand complex circumstances. *We introduce something of our own, and are lost in the complexities which this brings about*<sup>18</sup> realized Charles Hinton.

Often, the models\* that have been built to explain some worldly phenomena, are in itself creators of new phenomenons, that are inherent in the model, but not necessarily

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<sup>18</sup> Charles H. Hinton, *Speculations on the Fourth Dimension*, Selected Writings of Charles H. Hinton, 1885.

visible.

\*The word model will be herein used as a placeholder for all sorts of scaled down representations such as: Climate models, micro sensors, sci-fi genres, dystopian games, serious games, VR environments, risk prevention catalogues, insurance industries, oil spill and radiation cam's, catastrophe bonds, visual cultures.

An example from hydraulic modeling:

“Models are developed by more and more people, many of whom are responsible for a smaller part in a larger whole. In addition, older code may not be understood because the expertise underlying it is no longer available. Finally, modelers may have the tendency to leave parts of the model unquestioned due to successful applications in the past that foster trust in the model in question.”<sup>19</sup>

The access to the internal functions of the perception machine is blocked. You simply don't know how the device works that provided the knowledge, wherefore you don't really know how you came about possessing that knowledge in the first place. Most of the time it is simply a matter of fact to stick with.

In consequence these model specific invisibilities would lead to the development of another model, which makes visible the inherent logics and phenomena of the predecessor model. Thus, one might not only need new tools to access and perceive or manage the world around, but also set up secondary tools that have a look at the already existing tools.

### 7. Access 3

It may seem less of a solution to derive even more away from the physical world by establishing another thick layer in the form of such secondary model approach through which one might risks to loose any direct access whatsoever.

{A model >> for a model >> for the world.}

As if giving in to the idea that the already existing models are insufficient for world access.

Though, if there is a way of knowing how one even got to know, perceive and try to control worldly things in the first place, then there is at least a chance of understanding what tools, models or images one should be cautious about and which are worth holding onto. And since the model making of the world will certainly prevail and increase as a practice – further hardening the course for remote knowledge to be found in the miniature – there are many questions to be asked about such save armchair perspectives onto the world.

To regain focus again:

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> A complex thing has to be made comprehensible: non-other then global processes,

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<sup>19</sup>Matthijs Kouw, The Risk Equipment Deserves More Credit: Modeling, Epistemic Opacity, and Immersion, Technosphere Magazine, HKW, 2017.

which are threadful for future species.

> A comprehensive modeling of the physical world takes shape in scaled down, complex but still too simple versions that might make one turn away from the world rather than bringing you closer.<sup>20</sup> The highly problematic, ultimate aim is to have a perfect version or replica of the world, a sort of coded script that enables to program such complex thing. (see chapter **1. Programing Reality**).

2.

> We might or might not be in the midst of developing an “optical mind”<sup>21</sup> as the world is increasingly supported by an image reality. But we should get used to the fact that the quality of world perception is most likely rather decided by the impact of the image quality rather than the direct pure access via conventional sensors (e.g. retina, sonic waves, odor etc.), even though these image representation are rather precise.

> The brain is stimulated by this hypernormal image mass flux to an extend, that we have a hard time making any conscious decisions on how to use these images for *world access*. (As mentioned before: afterall there might be no image that provides access).

3.

> Given that an overwhelming amount of high quality world ending scenarios (in the form of images) stem from the entertainment section, it is rather easy to imagine that there will be loads of image based monetisation sparking from the very moment of global collapse, generating a never ending stream of real-time images.

> Not only the imminent catastrophe but also the immediate catastrophe would then generate a monetizable surplus of catastrophe aesthetics<sup>22</sup>.

> Although it seems undesirable, humans often have a tendency of wanting to experience the impacts of a calamity as sharp and clear as possible. The hyper sublime effects of being in the *midst of the immediate* transports one into an extra-representational zone of soothing reality.

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<sup>20</sup> Increasing prevalence of the diorama, the miniature, their vessels staging us as onlookers to worlds as sandboxes. A dissonance between our interior worlds that of course we find increasingly virtual and beholden to our godlike control of drag/drop materiality conjuring our desires that the outer world increasingly doesn't reflect, the world steamrolled at the whim of other's control. So our turning to dolls and miniatures and virtuality makes symptomatic sense, fulfilling our need for control over a world we increasingly seem to not have much over makes psychologig sense. The world providing ever further customizable habitats to busy ourselves with while remaining deaf to our desires, a lot like playing with dolls.  
<http://www.artwritingdaily.com/2017/02/sylvanian-families-biennial-2017-at-xyz.html>, “Sylvanian Families Biennial 2017” at XYZ collective, Contemporary Art Writing Daily, (last access: 20.06.2017).

<sup>21</sup> (...) while images now participate in forming worlds, they have become forms of thought constituting a new kind of knowledge — one that is grounded in visual communication, and theory dependant on perception, demanding the development of the optical mind.  
Irmgard Emmelhainz, ‘Conditions of Visuality Under the Anthropocene and Images of the Anthropocene to Come’, E-Flux, vol. 63, 2015, (last access: 8.09.2016).

<sup>22</sup> Yet, however deplorable, growth and devastation can be aesthetically generative: they set us on a course toward imagining what the world will look like as it slides toward the inorganic. By constantly invading and liquidating resource-rich contexts, capitalism encourages images that project what will inevitably be left in its wake: a dead world.

## 8. Help Out Reality By Denouncing It As Fiction

To end with the introduction and begin with the register of exemplary *World Accessing Models*...One standout example which conceptualizes access and realizes a compelling engagement with potential futures via the following *image trick*:

Werner Herzog's *Lessons of Darkness*, an essayistic sci-fi documentary, manages to give a differing access to the banal media saturated world of the post-war landscape of the first Iraq War. The contextualized footage mobilizes a very *real* image of the impact and violence of this specific human practice, while it works in an unreal realm of storytelling.

The trick is based on the use of self-produced footage of an actual real event, (the Iraq post-war landscape), which is then directly being transformed into an open-genre sci-fi documentary about the very same event. It turns into an experimental war report that seems as if it has been produced by a TV-crew from a future planet, which was dispatched to document this specific event on remote planet Earth.

By doing so, Herzog does not only incorporate and reflect directly on the unavoidable fictional aspects that are inherent in every documented media-event, but also activates an uncontaminated look at such a catastrophic event, when he plays the conscious trick on himself by acting as a strange foreigner from another planet that has never seen this sort of landscape.



Figure 5: "A Planet in our solar system", Filmstill from *Lessons of Darkness*

The images of *Lessons of Darkness* show its power via the claim to be fiction instead of pretending to be the reality at hand. Because usually the real catastrophe that is turned into images and media events is ever far from being understood and contemplated as a real event. It's rather aligned with the fiction of the motion industry and vice versa, since the daily stream of catastrophic images desensitize to an extent where we end up to be in need of an image trick that works like a pinch in the upper arm.

Such countervisual strategy was also noted by filmmaker Joana Hadjithomas & Khalil Joreige, in an interview in which they answered to the question of why they put the

public figure and actress Catherine Deneuve into the actual war architecture of Lebanon:

“We thought of the best way for people to see ruins again, because they are portrayed so often on television that people don't see them anymore. So if we put a fictional body, like Catherine Deneuve, in places where reality is so heavy after such a terrible war—the 2006 war in Lebanon—what might happen?”<sup>23</sup>

A representation of a real event that embraces that fiction is equally involved in creating that event, makes space again to question that very (real) event. If you switch the angle and allow the real footage to be fiction you almost end up with a more legit depiction of reality than the thing that calls itself real, because nowadays reality is rarely taken for granted, worthwhile or trustworthy, wherefore it's more aligned with fiction. The real has become an imagined thing that is experienced and caught in the loop of representation, whereas fiction might be the successor to engage with the real world.

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<sup>23</sup> Joana Hadjithomas & Khalil Joreige in an interview with Brian Khan Wood, (source unknown).