

# URBAN-NATURE: THE ECOLOGY OF PLANETARY ARTIFICE

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1.

These concepts were coined, respectively, by Bernardo Secchi, François Ascher, Edward W. Soja, Saskia Sassen, Manuel Castells and Rem Koolhaas.

2.

Alberti said that “the city is like a large house and the house in turn is like a small city”; quoted in Peter Eisenman, “Editor’s Introduction”, in Aldo Rossi, *Architecture of the City* (Cambridge, MA: The MIT Press, 1982), 9. It should be noted that 15th-century humanists modelled the city in similar terms as the microcosm of a harmonic and macrocosmic universe. Universe–city–house thus worked as a sort of anthropocentric matryoshka of self-replicating objects, produced and conceptualized as mathematical Platonic forms with man as its core subject and the architect as its mythical hero-creator.

## 1. The All-pervading Nature of the Urban

*Città diffusa*, metapolis, postmetropolis, global city, space of flows, generic city<sup>1</sup> – these are some of the recently invented concepts that try to name and define the new kind of urban phenomena that have come to asymmetrically permeate the globe. While each has its own particular standpoint, they all address (directly or by implication) the death of the humanist city<sup>2</sup> and that of its analogous dichotomy, city/countryside. Engulfed by “junkspace”,<sup>3</sup> *city-as-object* and *rural-as-background* no longer exist; what is left now is an ambiguous and hybrid condition that has no genetic code and is impossible to describe in typological terms.

Ultimately, all architecture colonizes space for human appropriation, defining a boundary of domination set against a background of wilderness and chaos – in other words, *nature* (the excluded leftover of the architectural inside). The classical city, one could argue, did the same thing on a communal scale: it contained the agglomeration of civilized inner public spaces segregated from the outer (extramural) countryside. The city wall drew the limit between the two worlds, with the cultural object in the foreground, contained and framed against the backdrop of wide-open land. The industrial (modern) city blurred and irreparably damaged this once-stable opposition. The *social polis* merged with the *bucolic arcadia* in infinite, site-specific combinations and bred a succession of “transgenic landscapes”<sup>4</sup> that we now generally refer to as “the urban”. The territory lost friction and changed in more or less awkward ways to the point at which “the urban” itself became a kind of all-pervading (mostly chaotic) cultural background – one might say, a kind of *nature*.

## 2. The Artificial Production of the Natural

*Air, water, wood: all are enhanced to produce . . . a parallel Walden, a new rainforest. Landscape has become Junkspace, foliage as spoilage: Trees are tortured, lawns cover human manipulations like thick pelts . . . sprinklers water according to mathematical timetables.*<sup>5</sup>

Nature is a mystified anthropocentric ideal, one explained well by Caspar David Friedrich's 1818 painting of a man poised on the edge of the abyss, contemplating its vastness and projecting onto it an extension of his own inner grandiosity. Man, the conscious cultural being, sets himself against the world of natural things: civilized artificiality versus original wilderness. This idea of "artificiality" has its root in the Latin word *artificium*, which means "art, craft or skill" and eventually also acquired the meaning of "inauthenticity", thereby coming to encompass the common associations of "truth" with nature and "deceit" with culture. However, nature in the sense of something non-artificial, unaltered by human activity, hardly exists anymore. Even those places we call nature reserves (maintained in order to preserve fragile ecosystems and biodiversity) are paradoxically unnatural, since the act of conservation itself can only ever result in something man-made. Human design (biotech agriculture, plastic surgery, beach resorts, rural tourism, greenhouse tomatoes, hypoallergenic cats) makes so-called nature take on an artificial authenticity. Preserved/protected nature is always a sanitized, tamed and overall more human-friendly version of the real thing – a domesticated, hypernatural version that is little other than culture in disguise. Ironically, the more we learn to control nature, the less nature we have, and the more we change nature, the more complex, strange and unknowable it appears.

In the light of such ambiguity, Koert van Mensvoort's essay "Real Nature Is Not Green" proposes a replacement of the culture/nature binary with that of *controllable vs. autonomous*, whereby culture would be that which we can control and nature all that we cannot. According to this new classification, greenhouse tomatoes and nature reserves would belong to the cultural category, while computer viruses, traffic jams and "the urban" (in all its all-pervading autonomous anarchy) would be considered natural.<sup>6</sup>

3.

The concept was coined by Rem Koolhaas; see Koolhaas, "Junkspace", in OMA and Rem Koolhaas, *Content* (Cologne: Taschen, 2004).

4.

The concept was coined by Álvaro Domingues; see Domingues, *Vida no Campo* (Porto: Dafne Editora, 2011), 39.

5.

Koolhaas, "Junkspace", 170.

6.

Koert van Mensvoort, "Real Nature is Not Green", *Next Nature* (6 November 2006), consulted online at <http://www.nextnature.net/2006/11/real-nature-isnt-green/> (accessed 20 August 2014).

### 3. A Dialectics of Artificiality: A Few Case Studies

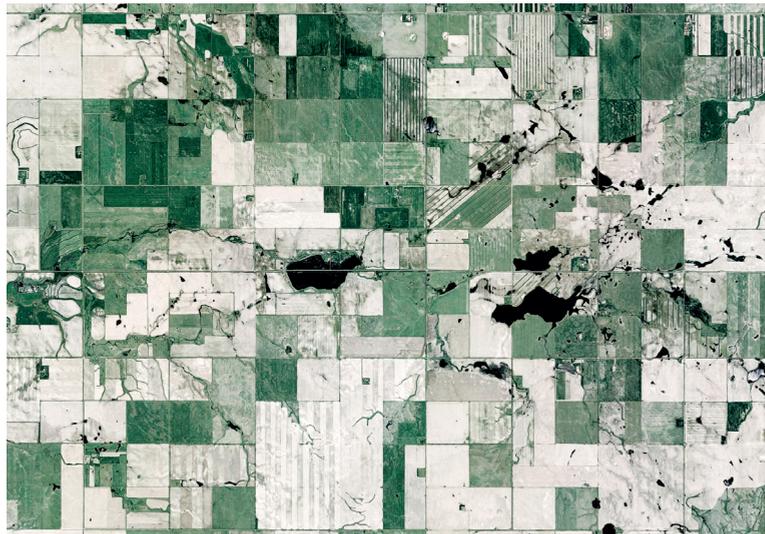
#### 3.1 Perspectivism versus Atmospheric, Western Sacred Geometry and Eastern Organic Narrative

There is a fictional power in cartography and spatial representation. Even the most seemingly analytical map is, ultimately, always an interpretative *reading* of what it purports to describe – both a reduction and a construction of the real. Representations are incomplete and biased metaphors that build a reality of their own while also revealing the subliminal illusions of our own (mis)conceptions:

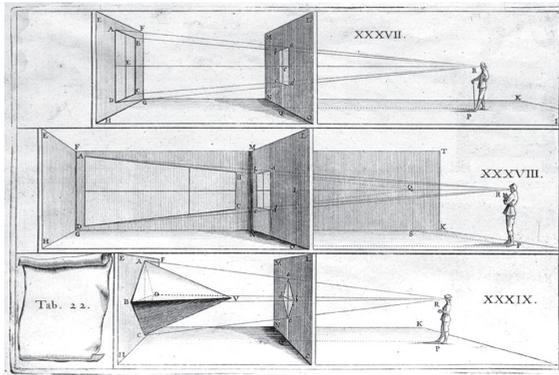
The convention of perspective, which is unique to European art and which was first established in the early Renaissance, centres everything on the eye of the beholder. It is like a beam from a lighthouse – only instead of light travelling outwards, appearances travel in. The conventions called those appearances reality. Perspective makes the single eye the centre of the visible world. Everything converges on to the eye as to the vanishing point of infinity. The visible world is arranged for the spectator as the universe was once thought to be arranged for God. According to the convention of perspective there is no visual reciprocity . . . Every drawing or painting that used perspective proposed to the spectator that he was the unique centre of the world.<sup>7</sup>

Perspective creates the illusion of spatial depth on a flat surface by employing techniques of proportional foreshortening which scale

7.  
John Berger, *Ways of Seeing*  
(London: Penguin Books,  
1972), 16, 18.



Jeffersonian Grid, Land Ordinance of 1785, aerial view of Medicine Lake, Montana, USA, found online on Bing Maps



Jean-François Nicéron,  
untitled engraving in  
*Thaumaturgus opticus, sive  
amiranda optics* (Paris,  
1646)

objects in relation to the viewer. It works by projecting a scene onto a mediating “rectangle” that stands between reality and the observer’s eye: *object of contemplation* > *picture plane* > *conscious subject*. Its mathematical nature gives it a rational (scientific) status, which results in a privileged (and axiomatic) authority over the rendering of the *truth* about the world (i.e., the material world of palpable things). Tellingly, perspective comes from *perspicere*, which is Latin for both “to see through” and “to perceive”.

Ultimately, this *framing* of the world by way of the “picture plane” can be understood to portray the dominant paradigm of how Western culture has experienced the world. Albrecht Dürer’s 1538 woodcut *Man Drawing a Reclining Woman* sums up this human–world relationship beautifully. Sitting at his desk, the artist looks at a woman through his “drawing machine” (Dürer’s version of Alberti’s “window” and Leonardo’s “glass wall”), a perspective device whose purpose is to impose a square grid onto the viewed scene, thereby dividing space (and time) into measurable units. This is not unlike cartography’s coordinate system of longitudes and latitudes, or the physical imposition of land ordinance grids for land colonization (from Hippodamus in 5th-century-BC Greece to Thomas Jefferson in 19th-century America). It has become the “natural” way of looking at the world and placing ourselves within it:

Man, with his new geometrical tool, was the measure of all things. The world was now available to standardisation. Everything could be related to the same scale and described in terms of mathematical function instead of merely its philosophical quality. . . . If man were the measure of all things, then all things must surely be related to the measure of man: his experiences, his observations, his points of view.<sup>8</sup>

8. James Burke, *The Day the Universe Changed: How Galileo’s Telescope Changed the Truth* (New York: Little, Brown and Company, 1984), 76–77.

Eastern images did not have such “Cartesian” ambitions, mostly due to religious and philosophical differences, but perhaps also because their paintings were never intended for an architectural context. Linear perspective is, after all, an invention credited to an architect (Filippo Brunelleschi) and its first mathematical application in a painting is considered to be Masaccio’s *Holy Trinity* (ca. 1425), a wall painting creating the illusion of a receding niche in a Florentine church. Persian miniatures, on the other hand, were made to illustrate books and therefore employed the conventional format of a vertical page, which was to be bound in an album or manuscript; they do not attempt to simulate spatial depth (there is no foreshortening, no rendering of light) and things are represented side by side as ornamental patterns that can almost be read as text. Similarly, Chinese landscape painting was not an attempt at pictorial realism, but rather an aid to the practice of meditation. Silk scrolls are long panoramic drawings that blur the lines between painting, drawing and calligraphy, and often include poems. They do not so much depict the “real” world (they were never produced in situ) as allude to its fleeting atmospheres. They allow the viewer’s wandering eye to read the painting freely, so there is not one single viewpoint but several – the image is interwoven, ambiguous, spacious, vague and constructed as much by the viewer as by the author.

### **3.2 Systems versus Objects, Powers of Ten and the Minimal Objects of Land Art**

On 24 December 1968, astronaut William Anders, flying on board Apollo 8 in outer space, took a photograph of Earth rising behind the Moon’s horizon that later became known as the iconic “Earthrise”. Exactly four years later, the Apollo 17 crew captured an even more representative world-picture that has been permanently imprinted on our minds ever since: “Blue Marble”, the view of the lonely spaceship Earth floating in pitch-dark space and time.

In 1977, Charles and Ray Eames directed a short film illustrating the relative scale of objects in the universe when compared to the size of humans. The film is built around a fixed aerial view of a man lying on his back, with the camera zooming in and out by orders of magnitude based on a factor of ten. It is called *Powers of Ten: A Film Dealing with the Relative Size of Things in the Universe and the Effect of Adding Another Zero*, and its narrative voice-over starts off like this:

The picnic near the lakeside in Chicago was the start of a lazy afternoon, early one October. We begin with a scene one metre wide, which we view from just one metre away. Now, every ten seconds, we will look from ten times further away and our field of view will be ten times wider. . . . Our picture will centre on the picnickers, even after they've been lost to sight. . . . Ten to the sixth – a one with six zeros, a million metres: soon the earth will show as a solid sphere. We are able to see the whole earth now, just over a minute along the journey. . . .<sup>9</sup>

There is a totalizing approach to this film that seems to borrow from Buckminster Fuller's 1968 *Operating Manual for Spaceship Earth*. It tells of the infinite interconnectedness of things and the simultaneous finitude of our planet, thus exposing our inherent responsibility toward its dutiful and sustainable management. The narrator's tone is optimistic and confident, describing the interlocked synergies of the holistic universe-system (and its reassuring repetition of patterns on grander and smaller levels of organization), as if to imply that everything is knowable, and nothing elusive. Yet there is a strange uncanniness to the images that does not quite match the speech – a subtle but uneasily paradoxical pairing of the rationalist rhetoric of the system and the abrupt apparition of the object, the “solid sphere”, “imposing and remarkably spherical”.<sup>10</sup> Within the flowing system of universal relations, Earth's wholeness has a withdrawn, estranged quality.

Robert Smithson's Minimalist objects relate to this paradox. They position themselves within the interlocking scales described by Fuller and the Eameses – *space exploration* > *perishable planet* > *human subject* – but their stratification produces only further irrationality, illegibility and estrangement. Smithson's sculptures do not serve as landmarks that establish measure and orientation, and they are, in fact, quite independent of an observing subject. Instead, they incorporate the environment and relate to it through slow processes of entropy while nonetheless remaining *discrete objects* that retain a certain muteness and individuality of their own, sort of like the alien black monolith in *2001: A Space Odyssey* (that monumental cinematic ode to the weirdness of space that lies beyond anthropocentric signification). Smithson's Land Art sculptures are elusive objects whose contingent materiality and diffuse totality can never be understood in terms of natural/artificial, nor exhausted by human contemplation:

The scale of the Spiral Jetty tends to fluctuate depending on where the viewer happens to be. Size determines an object, but scale determines art.

9. Charles Eames and Ray Eames for IBM, *Powers of Ten: A Film Dealing with the Relative Size of Things in the Universe and the Effect of Adding Another Zero* (1977).

10. Charles Eames and Ray Eames for IBM, *A Rough Sketch for a Proposed Film Dealing with the Powers of Ten and the Relative Size of Things in the Universe* (1968).

11.  
Robert Smithson, "The  
Spiral Jetty", in idem and  
Jack Flam, eds., *Robert  
Smithson: The Collected  
Writings* (Oakland: University  
of California Press, 1996  
reprint), 147.

A crack in the wall if viewed in terms of scale, not size, could be called the Grand Canyon. A room could be made to take on the immensity of the solar system. Scale depends on one's capacity to be conscious of the actualities of perception. When one refuses to release scale from size, one is left with an object or language that *appears* to be certain. For me scale operates by uncertainty. To be in the scale of the Spiral Jetty is to be out of it.<sup>11</sup>

### 3.3 Inside versus Outside + Away: The Ecology of Industrial Earth

A Styrofoam cup will take about 500 years to degrade. Radioactive waste deposited beneath mountains has an average harmful life expectancy of about 100,000 years (for it can endure between 10,000 and one million years), three times longer than the time spanning back to the Chauvet cave paintings executed by Palaeolithic humans. At the beginning of the 19th century, the world's population was one billion, but it is now seven times that, and by 2050 it is predicted to surpass nine billion. Atmospheric CO<sub>2</sub> concentration has more than doubled since 1950 and is causing global warming. Human debris dumped in the oceans has been accumulating in patches known as the Pacific trash vortex. Polymer plastic (found, for instance, in the common plastic shopping bag) does not *biodegrade* as much as degrade, breaking down into increasingly smaller pieces (microplastics) until it eventually enters the food chain:

For some time we may have thought that the U-bend in the toilet was a convenient curvature of ontological space that took whatever we flush down

Brussels at night as seen  
from space.  
Photograph by Chris  
Hadfield, 2013

Facing page:  
J.M.W. Turner, *Rain, Steam  
and Speed*, 1844, oil on  
canvas, National Gallery,  
London





into a totally different dimension called *Away*, leaving things clean over here. Now we know better: instead of the mythical land *Away*, we know the waste goes to the Pacific Ocean or the wastewater treatment facility. . . . There is no *Away* on this surface, no here and no there.<sup>12</sup>

We live in an age of ecological panic masked under the cynicism of ideological denial. In the scheme of the five stages of grief,<sup>13</sup> after denial follow anger, bargaining and depression, until we eventually reach the point of acceptance, when, typically, “the subject no longer perceives the situation as a threat, but as a chance for a new beginning”.<sup>14</sup> What we are grieving is the death of the idea of nature and the loss of our anthropocentric world view.<sup>15</sup> This is an uncanny era in which human history has collided with geological time, giving rise to strange and vast phenomena that are impossible to categorize in terms of the opposition of human versus natural (global warming, mass extinction, pollution). Geologists have come to call this era the Anthropocene, meaning literally the “human era”. Earth in the age of the Anthropocene is an artefact – *Spaceship Earth*, an artificial object travelling through time and space and steered by Earthiens.<sup>16</sup>

The end of the world has already occurred. We can be uncannily precise about the date on which the world ended. . . . It was in April 1784, when James Watt patented the steam engine, an act that commenced . . . the inception of humanity as a geophysical force on a planetary scale.<sup>17</sup>

Ecology means inevitable responsibility, forced intimacy, utter hospitality and coexistence. It means that there can be no “away”, no “over there”, no “yonder” – everything “stands” awkwardly close. But between “right here” and “over there”, there *is* architecture, guarding

12. Timothy Morton, *Hyperobjects, Philosophy and Ecology after the End of the World* (Minneapolis: University of Minnesota Press, 2013), Kindle e-book.

13. According to the Kübler-Ross model, there are five stages of grief: denial, anger, bargaining, depression and acceptance.

14. Slavoj Žižek, *Living in the End of Times* (London and New York: Verso, 2011), Kindle e-book.

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

16. Buckminster Fuller, *Operating Manual for Spaceship Earth* (Baden: Lars Müller Publishers, 1969).

17. Timothy Morton, *Hyperobjects, Philosophy and Ecology after the End of the World* (Minnesota: University of Minnesota Press, 2013), Kindle e-book. Note that “end of the world” here means not an apocalyptic reaction to the ecological crisis, but rather the “traumatic loss of coordinates” that happens when humans are removed from the significant centre of the universe. The notion of the world as the dominated background dissolves.

18.  
See <http://www.edwardburtynsky.com/> (accessed 20 August 2014).

the limits between inside (controlled environment) and outside (framed spectacle) – both dimensions being articulated by the *envelope*, the container of air-conditioned private property and symbolic meaning. Architecture lies in the gap between “inside” and “outside”, and it camouflages “away”: the repulsive, tabooed space of pollution, waste and infrastructure (from domestic plumbing and sewage to transnational oil pipes and Fukushima).

Photographer Edward Burtynsky’s works engage with this somewhat absurd dilemma by depicting things that are provocatively marginal to our established sense of the aesthetic. They portray landscapes brutally scarred by human colonies of industry and technology strangely framed like ancient ruins in sublime paintings. These *manufactured landscapes* “search for a dialogue between attraction and repulsion, seduction and fear”,<sup>18</sup> and ultimately reveal the weirdly ambivalent essence of these vast territories: they are neither urban nor natural.

This is the aesthetic of “urban-nature” – one of uncanniness and unease that exposes the dilemma of *ecological guilt* by radically showcasing the fundamental gap between actual material reality and our distorted perception of nature as a snug and cosy background. This kind of ecological thinking requires a humbling (and humiliating) de-centring of the human, and its embrace marks the beginning of an age of non-anthropocentric realism. If the Neolithic Revolution gave birth to “the city”, then the industrial revolution gave birth to “the urban”, and if the first altered the natural environment, then the second abolished the concept of nature altogether. “Urban-nature” is the condition of living on industrial Earth: a “world” of domesticated nature and wild urbanization well illustrated by Turner’s painting *Rain, Steam and Speed*, an impressionistic, hazy landscape of industrial mist. It is a paradox that supersedes dichotomy, and in doing so, it highlights the forced coexistence of its two antagonistic conditions – just as *nature* becomes increasingly *urbanized*, so the *urban* becomes gradually more *natural* to the point where concepts once seen as polarities can begin to be considered metonyms.