



HANNELIE COETZEE

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LIZAMORE
& Associates

ECOLOGY AND KINSHIP

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Inspired from a 2016 project, Watermense/Water People, which explored the use of natural resources, and untold stories of individuals, communities and the networks of Johannesburg's inner city water streams, Coetzee set to create a large scale indoor sculpture constructed from reclaimed wood.

Samantha (2017) stands at 3.2m high, constructed from wood in the form of parquet tiles, found shelves and desks which Coetzee has salvaged from regenerated buildings and from friends and connections. It is within this kind of communal practice that Coetzee develops her artistic practice, where geographical neighbours are potential allies and later friends to further sustainable partnerships based on ecological needs.

Samantha is one such neighbour. During a visit to the Ferndale stream in Johannesburg, Coetzee met Samantha Mamiled who lived nearby and would often hang out at the spruit with friends or wash in the stream. The ensuing conversation delved into ideas of reconnecting with nature within urban areas. Sitting at the contaminated water, a link to memories of her rural home and bathing in its streams, Samantha reminded Coetzee of the wasteful and negligent relationship we have with nature in these urban spaces.

These stories become threaded into the creation of Coetzee's artworks – portraits of some of these individuals. Coetzee adds to this dialogue on the urgent water issues, providing a visible trace of these individuals who are concerned and directly connected to this natural resource and network. Through their storytelling, Coetzee respects their affinity to these resources, and unravels the complexities around the landscape and its resources, connecting what seems to be disparate fields; science and art. Here Coetzee presents these two fields as interconnected, neighbours within the field of inquiry.

"My work in sculpture and large scale intervention centres on the use of these art forms to emotionally engage collaborators, audiences, participants and the broader public with place; it aims to integrate science and art to inspire empathy for and engagement with nature." Hannelie Coetzee
Samantha stands as a visible monument, a reminder of these reconnections, to the ability to revive ourselves where we live. The reclaimed wood and stone used as practical experimentations of how we may use these recycled materials with integrity, to reimagine our relationship with these materials and rebuild a healthier relationship with the environment.

Expanding on Coetzee's existing oeuvre of ecological interventions (Locust and Grasshopper presented at Nirox Gauteng (2017) and The Old Sow between the Trees at Wanas Sculpture park Sweden (2017)) these sculptures provide pockets of interaction engaging juxtapositions and synergies – inside/outside, environment with human interaction, human narratives/land narratives, 'art for art's sake'/ecological art.

Constructed from rejected wood in an urban landscape, Samantha (2017) incorporates gravity, paint, glue and screws, creating Coetzee's first free standing indoor sculpture at this scale. Coetzee uses her unique pixilation process to abstract and form the figure through these slats of wood, creating a palimpsest, a layering of mediums, stories and materials. Each thick layer of material provides a revision to its predecessor, highlighting the relevance of ecological practices within the arts.

Natural resources are no longer a passive participant but a reactive and elusive material. Coetzee creates work as a form of ecological dialogue with the arts, conflating this geological time frame, into our human timeline, narrating the Anthropocene through material and ecological language.

Coetzee aims to urge viewers to rethink how mankind will live with limited natural resources well into the future. Her artworks become a vehicle outside and inside the gallery to expand this conversation around the de-romanticization of the urban landscape and the incorporation of integrity back into natural resources, highlighting the ever-present link between human, nature and land.

With an impressive track record of large scale interventions, sculptural works and live burns, Coetzee's practice encourages networks and sustainable partnerships which further our understanding of the Anthropocene.



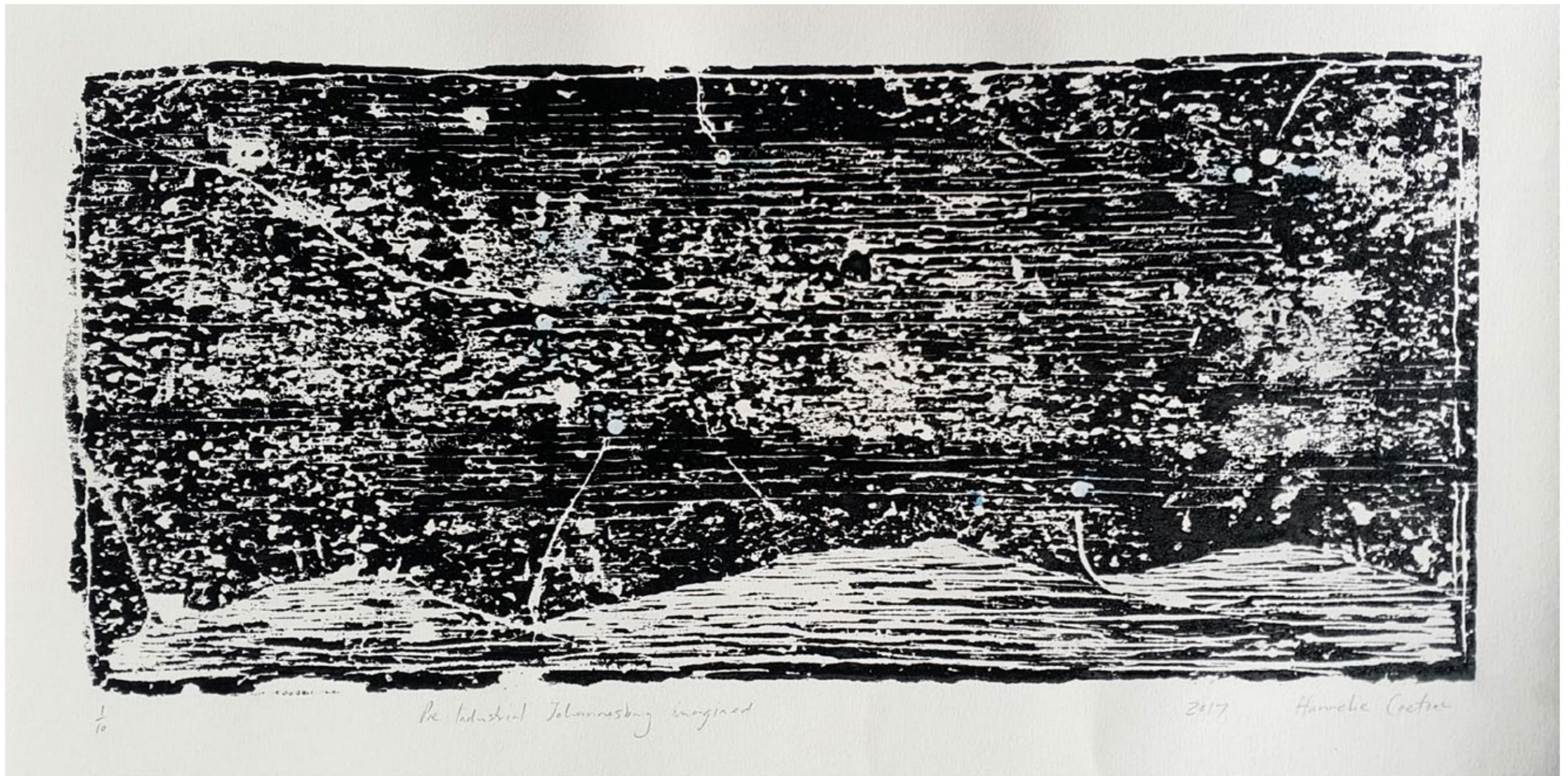
Mice, Synanthrope series | Reclaimed wood from Johannesburg , cold glue | 35 x 7 x 4 cm | Variable edition of 10 | R 1 800
(Available in wood and concrete)



Muskeljaatkat (Genet) Synanthrope series | Reclaimed wood from Johannesburg , cold glue | 80 x 25 x 4 cm | Variable edition of 10 | R 14 000
(Available in wood and concrete)



Pigeons, Synanthrope series | Reclaimed wood from Johannesburg , cold glue | 42 x 26 x 4 cm | Variable edition of 10 | R 8 000
(Available in wood and concrete)



Pre-industrial Johannesburg imagined | Ink on paper | 35 x 60 cm | Variable edition of 10 | R 4 800





Samantha | Reclaimed wood from Johannesburg, cold glur and screws | 320 x 100 x 130 cm | R 550 000



RE-DEFINING OURSELVES IN THE ANTHROPOCENE

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If humanity is indeed the force behind the changes on our planet, then the humanities are called to explore the new directions ahead of us, for they concern themselves with the study of intellectual creation and the critique of dominant narratives, myths, and ideologies, and the critical engagement with fundamental questions of meaning, value, responsibility, and purpose in a period of escalating crisis. (Sabine Wilke, 2013)

Whether we like it or not, we live and work in a planetary context known as the Anthropocene, the “Age of Man”. Even if we have become masters in denying them, the facts of the environmental havoc caused by this “Age of Man” are written in stone (Lockie 2017).

The Anthropocene is currently still an informal term proposed to identify a new geological epoch, bringing to an end the Holocene, which represents the last 10 000 -12 000 years of post-glacial stability in which homo sapiens established itself and started to flourish in many ways.

In contrast to the Holocene (“New Whole”), the Anthropocene is the epoch in which humans have become the dominant force determining the forming, transforming and future of the living and non-living systems of the Earth, destabilizing and disrupting it in many crucial respects.

This epoch is not yet formally accepted in the Geological Time Scale, but the ‘Anthropocene’ Working Group (2017) has submitted a proposal in this regard for consideration by the International Commission on Stratigraphy.

While debates are still on-going about the starting date (more or less) of the Anthropocene, its main characteristics, its societal and other ramifications and how we should respond to them, there is a growing body of evidence that human beings are busy making changes to planetary systems on a geological scale, changing, remaking, and even disrupting them, to such an extent that the dominance of the natural forces that shaped the Earth in previous geological epochs and periods have been displaced, and that the

very conditions for the flourishing of life on Earth are threatened.

This essay aims to capture something of the flavour and texture of the Anthropocene, its many challenges, scary and exciting at the same time, as well as something of the new forms of thinking and practice it could open up for us (or require from us).

In a mosaic of vignettes, the emergence of the term, evidence that we have entered the Anthropocene, early announcements of it, some of its main challenges, the mentalities underlying or informing the Anthropocene, and possible responses to these challenges will be briefly sketched.

The emergence of the term

Atmospheric chemist Paul Crutzen and lake scientist (limnologist) Eugene F. Stoermer (2000) started to popularize the term in 2000, arguing that the onset of the Anthropocene should be placed in the latter part of the 18th century when concentrations of greenhouse gasses (particularly CO₂) started to dramatically rise in the atmosphere, not only changing the chemical composition of the atmosphere in an unprecedented manner, but also precipitating global warming and the disruptions of climate change. This rise in atmospheric concentrations of greenhouse gasses, confirmed by data from glacial ice cores, coincided with the invention of the steam-engine in 1874 by James Watt, as well as large changes in the biotic assemblages of lakes. Others (Finney and Edwards 2016) argue that the Anthropocene started with the onset of the Nuclear Age, but Zalasiewicz et al. (2017) point out that “Nuclear Age” as a term does not fully capture what the “Anthropocene” entails.

Evidence for the Anthropocene

Evidence for the Anthropocene can be found in large-scale human endeavours with a planetary impact, or the collective planetary impact of more or less the same mundane activities of everyday life undertaken by vast numbers of

people the world over. Besides changing the chemistry of the atmosphere with the release of CO₂ and other greenhouse gasses leading to global warming and climate change, evidence for the onset of the Anthropocene include, but are not limited to:

Geo-engineering of the nitrogen cycle

The Haber process for synthetic nitrogen fixing can be seen as one of the earliest examples of geo-engineering from the first decades of the 20th century. Designed to enhance the Earth's nitrogen cycle, the process led to industrial scale manufacturing of fertilizers, the basis of food production and population growth. Its unintended consequences include large run-off into rivers, and from there to lakes and the sea, changing, together with the run-off from phosphates, the alkalinity of water bodies, including the oceans. Crutzen and Stoermer (2000) point out that "more nitrogen is now fixed synthetically and applied as fertilizers in agriculture than fixed naturally in all terrestrial ecosystems".

Changing the chemistry of the oceans

Rockström et al. (2009) confirm that the rate of human-induced ocean acidification is now 100 times faster than at any other time in the last 20 million years, a state of affairs that is extremely detrimental to marine organisms, affecting their ability to adapt to rapidly changing conditions and disrupting the functioning of marine ecosystems with unpredictable ripple effects up the food chain and planetary life support systems.

Nuclear testing

Instead of seeing the Anthropocene as fully defined by the onset of the Nuclear Age, the testing and military use of atom bombs rather represent bone-chilling metaphors for the immense destructive power acquired by humankind. A case in point was the nuclear test of 26 July 1946 at the Bikini Atoll in the Marshall Islands, Pacific Ocean (Laskow 2016). Oceanographers later detected stratigraphic evidence of this and other underwater nuclear tests in sediments on the ocean floor around the globe (Zalasiewicz et al. 2017).

Producing food and timber

In order to feed and clothe the human population that is expected to peak around 2100 at about 10.5 billion, we will need to use more and more land for agriculture. This already led to the point where there are more plants

in agriculture and plantations on Earth than growing naturally. Accordingly, some anthropologists use "Plantationocene" as a term in conjunction with the "Anthropocene" to highlight the slave plantation system as "the model and motor for the carbon-greedy machine-based factory system that is often cited as an inflection point for the Anthropocene" (Haraway 2015).

Exponential increases in the loss of bio-diversity and habitats

Recent studies indicate that human activity increased the loss of species and biodiversity a hundred to a thousand times over natural rates of extinction in certain areas (Mace et al. 2005; Rockström et al. 2009). This constitutes the sixth major extinction event in the history of life on Earth, the first that is driven by human activities (Chapin et al. 2000; Rockström et al. 2009).

Drinking water

Crutzen and Stoermer (2000) argue that a threshold to the Anthropocene was crossed when humans recently started to consume more than half of the fresh water available on Earth. This dangerously affects "biodiversity, food, and health security and ecological functioning, such as provision of habitats for fish recruitment, carbon sequestration, and climate regulation, undermining the resilience of terrestrial and aquatic ecosystems" (Rockström et al. 2009).

Changing the human genome: a phenotype changing its own genotype

In horticulture and animal husbandry genetic engineering of plants and animals has been a practice since times immemorial, replacing the slow process of natural selection central to evolution with artificial selection for properties attractive to humans. Against this background Genn (2017) argues that the "ever quickening pace scientists are developing [...] technological means to artificially manipulate the human genome" should be viewed in terms of a theory of the Anthropocene. The impact of this will go far beyond the current dreams of human enhancement and designer babies; it points to an unprecedented expansion of human intentionality: an era of genetic self-management the effects of which "may be legible for millennia to come" (Genn 2017).

Historical time interacting with geological time

Zalasiewicz et al. (2017) make the observation that the profound changes of the Anthropocene, of which those mentioned above are only a few examples that can be detected by observations in historical time, have already started to be registered in the fossil record, that is: in sedimentations and deposits

of our time in layers of ice in glaciers, layers of mud in lakes and dams, slag on the ocean floor, newly formed beach rocks, annually banded corals, and tree rings. In this regard deposits of CO₂ are well known, while plastics in this fossil record is becoming more and more common. They also argue (p. 218) that the “many thousands of square kilometres of urban and agricultural areas ... will produce deposits that have distinctive lithological and geochemical features reflecting the extensive novel materials being eroded.” This is writing the geological record of human impacts in ice, mud and stone.

Early announcements of the Anthropocene

Quoting Crutzen and Stoermer (2000) early announcements of the Anthropocene can be identified:

In 1864 G.P. Marsh published a book with the title “Man and Nature”, more recently reprinted as “The Earth as Modified by Human Action”.

In 1873 Stoppani rated mankind’s activities as a “new telluric force which in power and universality may be compared to the greater forces of earth”. Stoppani already spoke of the anthropozoic era. Mankind has now inhabited or visited almost all places on Earth; he has even set foot on the moon.

The great Russian geologist V.I. Vernadsky in 1926 recognized the increasing power of mankind as part of the biosphere with the following excerpt “... the direction in which the processes of evolution must proceed, namely towards increasing consciousness and thought, and forms having greater and greater influence on their surroundings”.

He, the French Jesuit P. Teilhard de Chardin and E. Le Roy in 1924 coined the term “noösphere”, the world of thought, to mark the growing role played by mankind’s brainpower and technological talents in shaping its own future and environment.

Much earlier, René Descartes (1596-1650) announced the Anthropocene with his dictum: Cogito, ergo sum; I think, therefore I am, articulating the precedence of human rationality in establishing what is real and indubitable over against what is opinion and doubtful (one of the foundations of modern science), and through this rationality, Descartes prophesied (1637),

humankind will become masters and possessors of nature.

Before him Francis Bacon (1561-1626) proclaimed in 1597 that knowledge itself is power, a phrase that, according to Wikipedia can be traced back to the 10th century book originally written in Arabic by Imam Ali (599-661): Nahj al-Balagha, and has been re-interpreted recently as power/knowledge by Michel Foucault (1980).

In contemporary terms Bacon’s dictum can be translated into “statistics is power”, or “big data is power”, and from there, given the ability of internet-based companies to mine their massive data bases with sophisticated algorithms it is but a short step to conclude that “the algorithm rules” much, if not most of our lives today, in so far as it is connected to the internet and linked to behaviour that can be electronically monitored.

Recent confirmations of the Anthropocene in popular culture

Arguments that the Anthropocene is an invention of pop culture, or to make a political statement, has been convincingly dismissed (Zalasiewicz et al. 2017). Pop culture and contemporary politics, interesting and important for many reasons, however, have become insightful platforms to observe significant aspects of the Anthropocene.

In 1986, for example, something of the self-conception of “Man as Master of the Universe” was neatly captured, even if inadvertently, in the lyrics of the Queen song, *Princes of the Universe*:

*Here we are, born to be Kings.
We're the Princes of the universe
Here we belong, Fighting to survive
in a world with the darkest powers.*

...

*We've come to be the rulers of your world
I am immortal, I have inside me blood of kings
I have no rival, No man can be my equal
Take me to the future of your world.*

...

*No man could understand
my power is in my own hand*

...

Fly to the moon and reach for the stars

...

Here we are, born to be kings ...

In the second decade of the 21st century more recent aspects of the Anthropocene are captured by the characteristics of the “post-truth world”, the most salient of which is that everyone or every group is “entitled” to their own set of “alternative facts”: everyone can create their own world. Reality thus becomes totally what we believe reality is; it is anthropogenically constructed – there is no truth Out There! Was it Derrida (1976) who already alluded to something of this kind of world when he claimed that there is no outside text (*il n’y a pas de hors-texte*)?

The same happens with nature, that we more and more experience via websites, through organized campaigns, or virtual reality. Nature thus becomes Nature 2.0, or Nature™ Inc (Arsel and Büscher 2012; Hare 2015), a social construction, a fictitious commodity traded subject to market forces to raise capital, sometimes for the protection of nature, and sometimes not.

Major challenges of the Anthropocene

The major challenges of the Anthropocene can be summarized as a dystopia of unsustainable development, ecological disruption, instability, uncertainty, and unpredictable change.

Johan Rockström and others, including Paul Crutzen, published a crucially important paper in 2009 in which they discussed the *Planetary Boundaries* we need to keep intact “for humanity if we want to be sure of avoiding major human-induced environmental change on a global scale”. They identified nine such boundaries, and argued that in three of them, climate change, rate of biodiversity loss, and changes to the global nitrogen cycle we have already overshot the limits of a safe planetary “playing field”. The really disturbing part of their paper is their point of departure: “Transgressing one or more planetary boundaries may be deleterious or even catastrophic due to the risk of crossing thresholds that will trigger non-linear, abrupt environmental change within continental- to planetary-scale systems.”

In 2015 in a follow up study on planetary boundaries, more accurate quantification confirmed that four of the nine boundaries have now been crossed, driving the Earth system into a new state of instability, characterized by uncertainty and unpredictability. These boundaries are: climate change, loss of biosphere integrity, land system change, and biogeochemical flows, particularly nitrogen and phosphorous (Steffen et al. 2015).

Some responses to the Anthropocene

Embracing the Anthropocene with a radical decoupling from nature

A collective of scholars, scientists, campaigners and citizens published An Ecomodernist Manifesto in 2015, calling for the use of “humanity’s extraordinary powers in service of creating a good Anthropocene”. Continuing in their own words:

... we write with the conviction that knowledge and technology, applied with wisdom, might allow for a good, or even a great, Anthropocene. A good Anthropocene demands that humans use their growing social, economic, and technological powers to make life better for people, stabilize the climate, and protect the natural world.

Calling for an intensification of many human activities, especially farming, energy extraction, forestry and settlement, “so that they use less land and interfere less with the natural world”, ecomodernists argue for a “decoupling” of human development from environmental impacts.

Emphasizing the role of advanced technology in this “decoupling”, explicitly mentioning nuclear power, aquaculture, desalination, and next generation solar energy among others, ecomodernism sees the Anthropocene as an “opportunity to re-wild and re-green the Earth” while addressing the issues of global poverty and ensuring human dignity for all.

Arguing that decoupling from nature must be radical and accelerated, and that this will require “the active, assertive and aggressive participation of private sector entrepreneurs, markets, civil society and the state”, ecomodernism is severely criticized for adopting the same kind of modernism and economic thinking that led to a “Bad Anthropocene” in the first place. Even if ecomodernism supports aesthetic and spiritual bonds with nature, they are equally severely criticized for effectively de-linking humans from nature, seeking their solutions in abstraction and isolation.

Embracing the Earth: Interconnectivity, tentacular thinking and cross-species identities

Cyber-eco-feminist Donna Haraway and others argue for an understanding of the Anthropocene as a *boundary event*, marking discontinuities, the end of “cheap nature” and the beginning of processes of “re-worlding” that “replenish refuge”. For Haraway “cheapening nature cannot work much longer to sustain extraction and production in and of the contemporary world because most

of the reserves of the Earth have been drained, burned, depleted, poisoned, exterminated and otherwise exhausted". She also rejects "vast investments and hugely creative and destructive technology" as the solution, because it only "can drive back the reckoning".

Instead, Haraway calls for a "change of story", a re-composition, in which human hegemony is exchanged for lives lived in kin-ship with other chthonic (earth bound) terrans. For Haraway humans are part of "rich multispecies assemblages", we are sym-chthonic beings, equally earth-bound, and our task is to create a refuge for the flourishing of life, collaborating and co-labouring with others, humans, non-humans and things alike. Realizing that she is moving close to the edges of language to express this kind of relational or entangled existence accross conventional racial, social and species divides, Haraway falls back on metaphors, slogans, neologisms and wordplay to suggest something of what she wants to say. One such slogan is: Make kin, not babies! She sees bacteria and fungi as sources of metaphors, and refers to human beings, us, as compost for the next generation.

To differentiate the new epoch of interconnectivity she calls for, referring to it as an era of "tentacular" thinking and existence, Haraway coins a neologism after the mythical earth-bound (chthonic) beings of Greek mythology: the Chthulucene. Formulated in her own words:

"My" Chthulucene, even burdened with its problematic Greek-ish tendrils, entangles myriad temporalities and spatialities and myriad intra-active entities-in-assemblages – including the more-than-human, other-than-human, inhuman, and human-as-humus.

Haraway's position is in many respects the opposite of ecomodernism. Instead of embracing the Anthropocene in a radical decoupling from nature, she calls for radical interconnectivity: "Who and whatever we are, we need to make-with – become-with, compose-with – the earth-bound."

Unconcluding conclusions

1. The Anthropocene provides us with an important lense to see the Earth as a "single, complex, integrated system" (Steffen et al. 2015); to see that the social-political-economical-environmental-planetary challenges of our time are integrated, entangled, intersectional.

2. To quote Rockström et al. (2009): The Anthropocene raises a new question: "What are the non-negotiable planetary preconditions that humanity needs to respect in order to avoid the risk of deleterious or even catastrophic environmental change at continental to global scales?"

3. Ecomodernism could help us to understand that the Anthropocene necessarily require planetary scale responses in order to counter the epochal changes and disruptions of the Earth system humankind has already put in motion.

5. Haraway could help us to understand that humans lives and our humanity are intertwined and entangled with other living and non-living entities such as bacteria or lichen or humus, and as such, that our lives are radically earth-bound and dependent upon a myriad of interconnections.

6. Taking planetary responsibility on a global scale does not leave behind the requirements of environmental ethics (respect for life on Earth), global ethics (solidarity, international justice), social ethics (human dignity, equality, justice and fairness), and individual ethics (integrity, doing good, causing no harm).

7. If we just sit back, do nothing, and allow the Anthropocene to run wherever it takes us, a few of us may eventually end up on Mars, with the majority of humankind and other forms of life on Earth suffering the profound, non-linear and possibly abrupt and irreversible changes that the Anthropocene still may have in store for us.

8. If we are brutally honest about it, it may take some time, immense courage and perhaps acute suffering to re-imagine ourselves differently in order to meet the numerous and enormous challenges of the Anthropocene.

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