
CAPTURING THE ANTHROPOCENE



Sensory Ethnography in Anthropogenic Biomes

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Abstract

In the last decade conceptual considerations of a new geological periodization called the Anthropocene have made scientists reconsider the role of human life on Planet Earth. This thesis examines the epistemological uncertainty concerning the hypothesis of the Anthropocene and analyses the theoretical implications in the human and social sciences hermeneutically. Based on multi-sited sensory ethnography in three examples of anthropogenic biomes in Wałbrzych (Poland), Suså (Denmark) and Copenhagen (Denmark) this is also a methodological demonstration in new ways of perceiving human entanglements in the biosphere. The study describes certain characteristic features of the Anthropocene in audiovisual recordings of anthropogenic landscapes and asks: how do we perceive the ethno-*graphic* (*graphē*) features of these landscapes? Conclusively the thesis proposes that anthropogenic landscapes need to be understood beyond bifurcated structures of nature and culture.

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INTRODUCTION

This thesis deals with a new scientific narrative representing the massive rise of human impact on Planet Earth after The Industrial Revolution and especially after what has been coined The Great Acceleration from the 1950s until today¹. It is a thesis that demonstrates a methodological undertaking of sensory ethnography in anthropogenic landscapes, while also contextualizing the phenomenological experience of these landscapes in hermeneutical and theoretical ways. It is engaged in some of the most essential characteristics of a new scientific hypothesis called the Anthropocene. The literal meaning of the Anthropocene refers to a significant increase in humans' (*anthrōpos*) recent (*kainos*) influence on the Earth. It is a term suggesting a new epoch in geological time pertinent to the natural sciences, but as it will be indicated here it is also highly relevant in the human and social sciences.

There are of course many ways of dealing with this subject. In this inquiry certain practices in audiovisual media have been utilized to show how they in their own media specific ways are able to influence the way we understand and perceive anthropogenic landscapes as distinct features of the Anthropocene. This inquiry will eventually show that the very concept and idea behind the Anthropocene hypothesis gives way to new epistemological approaches to how we perceive and represent anthropogenic nature. In our historical understanding of modernity, Western cosmology invokes a certain naturalistic order where human beings are seen as exceptional creatures because of their inner mental dispositions. This has been contested several times in various ways in the late 20th century, but my argument in this thesis is a reversed one; it is not our mental dispositions that makes us something unique, it is the physical-material condition of being part of an ever expanding community of species initiating fundamental planetary changes on both a biotic and abiotic level². This is of course only a historical and processual matter of concern and not an absolute truth. What really matters is how this rather new phenomenon becomes sensible to us? I would argue that one essential way to grasp this is by looking into the aesthetic-sensory perception of the Anthropocene and its many characteristics.

It is quite telling that the adjective itself, *anthropogenic*, is accompanied by a parenthesis in

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- 1 The changes are described by John R. McNeill in his comprehensive environmental history of the 20th century in the book *Something new under the sun* (2000). When I write about different forms of anthropogenic changes done to the Earth after 1900 I am primarily referring to this book.
 - 2 This argument might correspond to ideas in Malthusianism, but it is not necessarily overpopulation in itself but rather behavioral development in the human populations around the world that determines the future (Cohen 1995).

the dictionary announcing that it is "(chiefly of environmental pollution and pollutants) originating in human activity".³ But does anthropogenic nature necessarily have to be polluted or uncontrollable in its expansion? Of course it does not. It is a rather anachronistic definition that should be proven wrong in the following arguments. One way of changing that particular mindset is to look into the structural relationship between humans and the rest of nature. The argument is, by following the work of Phillippe Descola, that we are not ontologically different from the rest of nature. Through the logic of the Anthropocene I would rather argue that in a historical perspective we have *become* an exceptional geophysical force in a way that reminds us more and more of our own ontological kinship with the rest of nature. We are somehow forced to recognize it because human fingerprints are everywhere around us. We are urged into understanding the challenges of human intentionality in the Anthropocene. If we find ways of facing this historical fact we might give up the naturalistic dictum of seeing ourselves as separated from the rest of nature. We might see brand new forms of attachments, identifications and even cosmologies within the context of Western thought⁴. And we might learn to be aware of and recognize the details, and even design anthropogenic landscapes with more or less unintentional and positive ecological consequences.

Some of my methodological engagements are indeed closely linked to more theoretical ambitions. Which is also a way of connecting aesthetic-hermeneutic interests with phenomenological and anthropological engagements. I generally work in a schism between several disciplines, but with a background in aesthetic-hermeneutic traditions this will be the inquiry's departure point when it leaps into a more transdisciplinary field of Human Ecology where aspects of the natural sciences and the social sciences are relevant as well.

This thesis contributes to a broader academic field of studies working on the Anthropocene hypothesis. The natural sciences already know the procedures of how to define a new geological epoch, but in both the human and social sciences there are initiatives to develop appropriate methodologies and theories to understand the Anthropocene in a broader and more social and cultural context. In my contribution to that work I will try to put light on some of the most frequent and polarized views on anthropogenic nature after The Industrial Revolution, and I will take a look at how it is possible to portray a more anthropogenic planet through audiovisual cinematography. My theoretical framework consists primarily of Phillippe Descola, Bruno Latour and Peter Sloterdijk, but I have also utilized more media specific sources relevant to audiovisual artefacts discussed in my thesis. All major influences on this inquiry will be introduced throughout my thesis.

³ *Oxford Dictionaries*, Oxford University Press, accessed January 2, 2014, <http://www.oxforddictionaries.com/definition/english/anthropogenic>.

⁴ I use the rather vague term of the West throughout this thesis with reference to Phillippe Descola's definition of modern naturalism as a specific Euro-American cosmology (Descola 2013).

In **Part I** I discuss some implications of using the Anthropocene in a general theory of science perspective in works by Bruno Latour, Phillipe Descola and Peter Sloterdijk. In **Part II** I trace the origin and dispute of the Anthropocene in the natural sciences, and I take a quick look at the etymological development of the term in other scientific communities and public media. **Part III** is at the core of my inquiry and it contains methodological reflections and theories about perceiving anthropogenic landscapes after The Industrial Revolution through audiovisual media. It is done with reference to my own ethnographic video *Anthromes* (Carstensen 2013) shot in Wałbrzych (Poland), Suså (Denmark) and Copenhagen (Denmark) and furthermore, cinematic works by Wang Bing, Jean Painlevé and James Benning will be discussed in relation to issues of human perception in anthropogenic landscapes throughout that section.

Aim

In this thesis I will relate the Anthropocene to the question of audiovisual aesthetics and sensory perception of human existence in anthropogenic biomes. It is aesthetics understood in the old 18th century and pre-Romantic sense of how we detect changes around us and how different representational regimes develop through history⁵. So the questions are: 1) how do we aesthetically and sensorially register the massive anthropogenic changes we have caused in the last centuries through the medium of cinema? And 2) how do we reflect on them beyond disciplinary boundaries and solipsistic understandings of the Anthropocene?

Since the Paleolithic age, where human beings supposedly started expressing themselves for the first time through cave art representations of bison, humans have had an increased need to formalize their aesthetic impulses in representations of all kinds of phenomena around them in all kinds of formats. Today cave art gives us a feeling of what the geologists call deep time, and the geologists themselves have actually argued that “it is important to try to put contemporary changes to the Earth, as clearly as possible, into a deep time context” (Zalasiewicz et al. 2011: 840). This can of course be done in natural science disciplines like geology, but as mentioned above also across other disciplines in the human and social sciences. Reflecting upon the cultural imagination and representation of the Anthropocene can provide us with new understandings of human history that makes it hard to distinguish it from natural history. Some would even argue that an opposition

5 Bruno Latour makes this point in his Gifford Lectures by giving the word a broader meaning than the one we use today. In his definition aesthetics is understood as something we are being able to ‘perceive’ and to be ‘concerned’ about, and a way to make oneself sensitive beyond categorizations of art, politics and science (Latour 2013b: 97). The old etymology of the word: “Aesthetics – origin: late 18th cent. (in the sense ‘relating to perception by the senses’): from Greek *aisthētikos*, from *aisthēta* ‘perceptible things,’ from *aisthesthai* ‘perceive.’

between those two branches of historical records is obsolete in the wake of anthropogenic climate change (Chakrabarty 2009: 201). So in order to fully understand the influence we have had on the Earth and especially in the time since the Industrial Revolution, it might be useful to explore different ways of representing and perceiving anthropogenic nature that test our daily routines of sensorial alertness.

Two particular senses are often neglected in comparison with the written or spoken word. I will argue that certain ways of listening to and looking at anthropogenic landscapes embody prolific sensory-aesthetic approaches to the Anthropocene. Respected practitioners in the field of audiovisual recordings persuade us to be more attentive; to look closer and listen more carefully when we perceive the changes around us⁶. They make use of the most popular recording instruments indebted to the Industrial Revolution, the microphone and the camera, to stimulate increased sensorial alertness to the viewers and listeners.

Similar to earlier groundbreaking scientific hypotheses the Anthropocene seems to be enabling a lot of debate. So far evidences of a man-made geological epoch has been a thing to describe through different deductive methods in natural science departments. Climatologists and geologists gradually provide us with more and more certainty that we live on a highly if not completely anthropogenic planet⁷. But in order to grasp the changes and understand its implications it might be beneficial to cultivate new scientific territories and exchange different disciplinary perspectives on how human beings perceive the Anthropocene. We know that representing characteristics of the Anthropocene in its totality is impossible in one single artifact as well as it is impossible to cover the complete subject in a thesis like this. But if we start out by making it more comprehensible to understand certain media specific strategies of representing the world as it *is* or at least as one *perceives* it, it might help us to capture and frame anthropogenic nature in new and rewarding ways.

There are of course many limitations linked to this effort. I have chosen a few different examples of representational strategies and my inquiry will obviously lack long features of in-depth analysis. I have chosen this path to develop and introduce new methodological ways of understanding aesthetics in the human ecological realm of these massive anthropogenic changes done to the Earth since the Industrial Revolution (McNeill 2000). And I have not chosen this perspective on the Anthropocene merely on the basis of intuition and arbitrary interests. It has been

6 James Benning talks about a way “to look more closely than we’re accustomed to looking” and “to confront our prejudices, and to learn more about what we do see, if we want to see and hear more clearly” (MacDonald 2009: 265).

7 Scientific evidences and hypotheses on this issue will be discussed in Part II.

asked for by several academic thinkers relevant to Human Ecology⁸. Even voices among hard science climatologists have been telling the public to rethink the way we treat such a central issue as climate change, one of the main components of the Anthropocene hypothesis. Michael Hulme, climatologist at King's College in London, argued in his book *Why We Disagree About Climate Change* (2009) that we need a deeper reflection of what anthropogenic changes of nature mean beyond categories of the physical and the cultural, and beyond instrumentalist ideas of problem and solution (Hulme 2009: 357). That is what I aim to do in this inquiry by forming a phenomenology of anthropogenic landscapes through the medium of cinema.

METHODOLOGY

I began to wonder at at about this time just what one saw when one looked at anything really looked at anything.⁹

GERTRUDE STEIN

Many of us are born into the language and rhetorics of modern naturalism. As a consequence of this I have chosen a methodological approach that among other things should help me reduce the influence of that particular strain of naturalism. Descola writes that his

starting point is without doubt rooted in the familiar soil of naturalism. It is no easy matter to escape from one's origins and the schemas of apprehending reality that have been mastered through education and strengthened by being accepted as a common practice (Descola 2013: 303).

In the same way I am aware that I will always be entangled in the discourses of modern naturalism in some way or another when I try to understand what the Anthropocene is. I will nevertheless try to avoid it and simultaneously claim that audiovisual artifacts of moving images are able to manifest themselves on the edges of modern naturalism and touch upon other modes of identification with the world.¹⁰

An inquiry about the Anthropocene demands an eclectic methodological approach. If there is something which is “simultaneously real, like nature, narrated, like discourse, and collective, like

8 Bruno Latour as well as scholars like Erle Ellis mentioned this earlier this year. Bruno Latour put emphasis on certain “aesthetic virtues” in his Gifford lectures in Edinburgh arguing that through instruments and art forms we can become “*more sensitive and more responsive* to the fragile envelopes we inhabit” (Latour 2013b).

9 Stein (1941: 114)

10 I will come back to the question of ontological pluralism and different modes of identification in Part I in the theoretical discussion of Descola and Latour.

society” (Latour 1993: 6) it is definitely the concept of the Anthropocene, seeing as it covers all three elements. If we are to understand what the Anthropocene is all about, one would have to go through these three stages and describe what it means as both a natural phenomenon, a narrated discourse and a collective issue. Weaving those three components together means indulging oneself in three different epistemological realms and by that also following a mixture of methods. What I elsewhere discuss under the name of anthropogenic biomes, or simply anthromes, is the phenomenon to be studied here through a mixture of methods such as phenomenology, hermeneutics, visual anthropology and sensory ethnography. None of these approaches are mutually exclusive and several of them have a common heritage in both theory and practice.

In all parts of my thesis I will make use of hermeneutics in the tradition of Hans-Georg Gadamer to read the texts, films and theoretical material relevant to my inquiry. As part of the inquiry I have done ethnographic fieldwork with a camera in the spirit of Maurice Merleau-Ponty's understanding of phenomenology. It is through a certain media specific way of practicing sensory ethnography that my inquiry becomes a three-folded portrait of what at first hand seems to be exclusively nonhuman biomes, but ultimately contain a multitude of human signifiers in them. With my camera I am also trying to portray a certain way of looking and listening for ethno-*graphic* signs in the nonhuman landscapes. It is a way of perceiving signs of human existence in the biosphere. By doing that I also put myself in a tradition of academic work done in visual anthropology. There are many ways of producing knowledge, but my approach is based on a will to produce knowledge through situated inquiries with a mixture of methods (Law 2004: 3). What John Law defines as method assemblage is a more inclusive methodological approach appropriate for this inquiry. So in many ways it corresponds with what Law calls “...a way of thinking about method that is broader, looser, more generous, and in certain respects quite different to that of many of the conventional understandings” (Ibid.: 4). It also reaches out to what Latour argues is the most prominent assignment of anthropology today, namely to do an anthropology of the Moderns.¹¹

Hermeneutics

Hans-Georg Gadermer's *Truth and Method* (1960) assembles the most essential outlines of how to approach the issue of methodology in the human sciences. His most important contribution in this context is the idea of a fusion of horizons (*Horizontverschmelzung*) that becomes useful in the process of perceiving and understanding what anthropogenic landscapes are and what it means to us

¹¹ Bruno Latour: “It’s about trying to make sense of what happened to Westerners, to the Moderns. And to guide them as they’re confronted with the ecological crisis. It’s a diplomatic inquiry, one that is necessary now because of this tension”. From an interview with John Tresch (2013: 306).

in the Anthropocene. Entangled in the bifurcated language of modern naturalism we are slowly trying to change the mindset behind it. As a related question we could ask ourselves whether we are, as has often been claimed, disenchanted by the last couple of centuries in the West, or whether it is possible to reach some kind of reenchantment of the Anthropocene? This question will be treated hermeneutically in the following chapters.

Methodologically as well as epistemologically it is a new territory where a set of conflicting and converging methods and theoretical positions need to be combined in order to grasp the subject of the inquiry appropriately. The fusion of horizons is basically a fusion of a dialectic mindset one would have before interpreting a resource, and if the inquiry is accomplished, a more unified outcome appears, where things become more perceivable as a whole.

For there is such a thing as givenness that is not itself the object of intentional acts. Every experience has implicit horizons of before and after, and finally fuses with the continuum of the experiences present in the before and after to form a unified flow of experience (Gadamer 1960: 245).

If one wishes to grasp the contradictory feelings of living in the Anthropocene one follows the horizons of those thoughts to see if they collide, merge or leave each other completely in the end. Prejudices of both camps will be present and tested continuously but most of all taken up in the end as a reflection of the many hermeneutical endeavors in audiovisual recordings of anthropogenic landscapes. Gadamer was indebted to the phenomenological tradition and he even argued, using Heidegger, that, “[i]n the experience of art we see a genuine experience (Erfahrung) induced by the work, which does not leave him who has it unchanged, and we inquire into the mode of being of what is experienced in this way” (Gadamer 1960: 100).

It is a specific mode of understanding in the human sciences and, in the context of this inquiry, a phenomenological and aesthetic consciousness is on display. But it is also important to remember that in this process one does not do full justice to the real situation of the Anthropocene. In other words imitation, or mimesis, is not a total representation of the world. Nevertheless Gadamer argues that it is “only through the picture (Bild) that the original (Urbild) becomes the original (Ur-bild: also, ur-picture) – e.g., it is only by being pictured that a landscape becomes picturesque” (Gadamer 1960: 142). Gadamer's hermeneutics is in many ways one with phenomenological inquiries:

the experience of art acknowledges that it cannot present the full truth of what it

experiences in terms of definitive knowledge. There is not absolute progress and no final exhaustion of what lies in a work of art (Ibid.: 100).

In the work of art as well as in phenomenological inquiries there are methods to strive for truths, but not in any absolute sense of the word. This is evident in the writings of Gadamer who did not believe in standardized ways of gaining knowledge but saw scientific endeavors as ways of understanding an issue as an ongoing process that might never end completely. In this process contradictory theories and the use of them are part of the conversational act that eventually unites them in the end of an inquiry.

Phenomenology, Visual Anthropology and Sensory Ethnography

Phenomenology is a widespread theoretical field with a few founding fathers in especially Edmund Husserl and Martin Heidegger. More relevant in this context is the latest of those prominent figures Maurice Merleau-Ponty and his work on the phenomenology of perception (Merleau-Ponty 1962). This inquiry follows some of the trails in Merleau-Ponty's work and his quest for a 'rigorous science'. It is first of all based on a

philosophy for which the world is always 'already there' before reflection begins – as an inalienable presence; and all its efforts are concentrated upon re-achieving a direct and primitive contact with the world (Merleau-Ponty 1962: vii).

The perspective of an always 'already there' is particularly interesting in the context of audiovisual recordings. It is not merely about employing *Anthromes* as a “showcase for ideas” as Merleau-Ponty strongly rejects it to be (Merleau-Ponty 1964: 60). It is because cinema is able to present “the mingling of consciousness with the world, its involvement in a body, and its coexistence with others; and because this is movie material *par excellence*” (ibid.). Proper cinematic experiences entails this coexistence in a productive way, and the advantage of presenting a phenomenology of anthropogenic landscapes through audiovisual material is the way this approach makes one capable of seeing things anew. It is basically a way of striving towards a perspective that goes beyond prior conceptualizations of the physical-material condition in those landscapes:

Phenomenological or existential philosophy is largely an expression of surprise at this inherence of the self in the world and in others, a description of this paradox and

permeation, and an attempt to make us *see* the bond between subject and world, between subject and others, rather than to *explain* it as the classical philosophies did by resorting to absolute spirit. Well, the movies are peculiarly suited to make manifest the union of mind and body, mind and world, and the expression of one in the other (Merleau-Ponty 1964: 59).

What cinema shares with phenomenology is the quality of *showing* or *describing* rather than *telling* or *explaining*. This inquiry attempts to show cinema's qualities in a perceptual comprehension of anthropogenic landscapes. A comprehension of this issue is not easily done in thought or theory alone, but calls for other epistemologies of physical as well as mental immersion in a given landscape. It is a method of initially sensing (through cinematic experiences) and later deciphering what was registered in the thought processes:

(...) a movie has meaning in the same way that a thing does: neither of them speaks to an isolated understanding; rather, both appeal to our power tacitly to decipher the world or men and to coexist with them. It is true that in our ordinary lives we lose sight of this aesthetic value of the tiniest perceived thing. It is also true that the perceived form is never perfect in real life, that it always has blurs, smudges, and superfluous matter, as it were. Cinematographic drama is, so to speak, finer-grained than real-life dramas: it takes place in a world that is more exact than the real world. But in the last analysis perception permits us to understand the meaning of the cinema. A movie is not thought; it is perceived (Merleau-Ponty 1964: 58).

Cinematic experiences are sometimes able to make one perceive something finer-grained than experiences in the field. Even though they are interlinked, sensible consciousness and intellectual consciousness are distinguished into two categories by Merleau-Ponty. Phenomenological experiences make one feel sensation in a restricted framework of time and space, but intellectual processing of these sensations is a way to grasp a larger world:

Sensation can be anonymous only because it is incomplete. The person who sees and the one who touches is not exactly myself, because the visible and the tangible worlds are not the world in its entirety (Merleau Ponty 1962: 216).

Even though phenomenological investigations are useful approaches in many cases, they are not always necessarily appropriate and they are never absolute ways of knowing or experiencing a

phenomenon. Intellectual reflection and interpretation are processes that often add resources to the direct experience of a phenomenon and sense experiences often occur prior to hermeneutic endeavors. That is at least the epistemological link between sensible and intellectual consciousness in this inquiry.

The direct and primitive aspect of Merleau-Ponty is in several ways an implicit quality of the technology I have chosen to work with in the field. It has been claimed that the emergence of cinema as the eye of the 20th century has not been worked on properly in the context of human-Earth relationships (Ivakhiv 2013: 87). There is a long and widely debated methodological tradition of visual anthropology and ethnographic film that is important to have in mind in this discussion. What is commonly understood as the first documentary film is also regarded as the first ethnographic film in a longer tradition of what is now called visual anthropology. In *Nanook of the North: A Story of Life and Love in the Actual Arctic* (1922) Robert Flaherty portrayed an Inuit family in a vast terrain of ice sheets and open water in ethnographic detail. Flaherty's methodological approach has been taken up by different scientists and artists with a variation in synchronized sound, narration, voice-over comments, continuity distortion, presence of the ethnographer and other more conceptual elements (Weinberger 1994: 14). Since then ethnographic film has traditionally been thought of as documents of preindustrial cultures, but recently other and less dogmatic cinematic approaches have been developed in ethnographic film practices (MacDonald 2013: 3). In the trajectory of representing non-Western peoples visual anthropology went from being practiced by mainly amateur practitioners to professional documentarists. Later more personal contributions came from academic scholars as well as independent artists who shot their films in the tradition of ethnography. They were all made either in silent form or with added sound in postproduction. Improvements in synchronized sound made way for new movements in e.g. Cinéma Vérité, Direct Cinema and other varieties of observational cinema that often portrayed more universal subjects and not only indigenous people or non-Western cultures (Engelbrecht 2007: 3-13). Methods from these movements as well as elements from early cinema productions by the Lumière Brothers have influenced the production of *Anthromes*. The Lumière Brothers were pioneers of cinema production and they were probably the first to shoot a film with a predominantly ecological subject matter, even though they might have seen the oil wells in Baku as primarily a spectacle of visual enchantment and not necessarily a disenchantment as it would have been seen today (Murray and Heumann 2009: 19-36).



(Lumière 1896)

In the last forty years several experimental documentarists have taken a new path of observational cinema that focuses more on duration, phenomenology and aesthetics (see Part III). It is the objective of this inquiry to bridge the observational approach with ethnographic and phenomenological methodologies. It is closely related to aesthetic-sensory traditions in the Harvard Film Studies Center founded by Robert Gardner and especially to a later offspring in the same department called the Sensory Ethnographic Lab (SEL) established by Lucien Castaing-Taylor in 2006. It is a tradition with a phenomenological focus on methodologies specific to the medium of audiovisual recordings. Elsewhere in academia one finds more general takes on the multi-sensorial ethnographic methodology (Pink 2009, Atkinson et al. 2007). But this inquiry corresponds more to the ambition of SEL who define themselves as:

an experimental laboratory at Harvard University that promotes innovative combinations of aesthetics and ethnography. It uses analog and digital media to explore the aesthetics and ontology of the natural and unnatural world. Harnessing perspectives drawn from the arts, the social and natural sciences, and the humanities, the SEL encourages attention to the many dimensions of the world, both animate and inanimate, that may only with difficulty, if at all, be rendered with propositional prose. Most works produced in the SEL take as their

subject the bodily praxis and affective fabric of human and animal existence.¹²

There are traditionally no sensorial limitations in phenomenological inquiries, but SEL's emphasis is on two senses: hearing and seeing. The epistemology of these two senses is particularly interesting when they are combined and restricted to the medium of cinema. It is my claim that experiences of audiovisual artifacts, if the moving images and sound material are composed in appropriate ways, make it possible to reach a direct and intimate understanding of a subject one might be less inclined to observe or meditate on in one's daily life. With an emphasis on specific formalistic and sensorial aspects of seeing and listening in a particular place and see it projected on a screen, one tends to reflect and establish a new way of perceiving a given phenomenon. This will be described in more detail in Part III.

When going into the field as an ethnographer there are numerous things to be aware of before recording with a camera. The first step in the preproduction of *Anthromes* was a more general research into the subject I wanted to portray (see Part I and II) and a way to appropriately apply a set of methods. The affiliation and correspondences between my initial choice in phenomenology and sensory ethnography, visual anthropology and later – for the purpose of aesthetic and theoretical reflections – hermeneutics made it all fit together very well even though it took time and a few mind-bending digressions to get to the package of methods I needed.

I had to plan my fieldwork carefully in order to find locations to record my material. I used *Cross-Cultural Filmmaking – A Handbook for Making Documentary and Ethnographic Films and Videos* (1997) by Illisa Barbash and Lucien Castaing-Taylor extensively in this project to guide me in the process of filming. And I soon realized that they were right in the fact that “film locations often seem to pick themselves” (Barbash and Taylor 1997: 37). Even though I did plan to visit certain areas it took me a long time to find the right locations and I did shoot a lot of material before deciding on three particular examples of anthropogenic landscapes. Each location is spread out in wide distances and fits the category of multi-sited ethnography. It has been described as a new trend in ethnographic research that moves,

from its conventional single-site location, contextualized by macro-constructions of a larger social order, such as the capitalist world system, to multiple sites of observation and participation that cross-cut dichotomies such as the “local” and the “global,” the “lifeworld” and the “system” (Marcus 1995: 95).

¹² Castaing-Taylor, Lucien, Sensory Ethnography Lab, Harvard University, December 2, 2013, accessed December 19, 2013, <http://sel.fas.harvard.edu/>

It is noteworthy, and emblematic of my topic, that I ended up shooting material in such a distant location as Wałbrzych in Poland and more or less in the backyard of where I live in Copenhagen. The inherent logic of the Anthropocene is that anthropogenic nature is an omnipotent phenomenon and initially this made almost any location relevant in this inquiry. Throughout my research I ended up choosing a more restricted topic and after a while I found a few particular places that would illustrate the theoretical discussion in a prospective manner.

One of the places I was interested in was a remeandered river, so I needed a camera that made it possible to enmesh myself completely in the water of the river in order to portray the signs of new life after the restoration. I chose a digital camera (GoPro Hero 3, Black Edition) capable of recording moving images of decent quality in underwater as well as terrestrial conditions. This camera is in some ways a very primitive camera. It has only two buttons, one to start recording and another one to turn it off and in that way it is similar to early camera technology. I chose it because it was affordable, easy to travel with, because it shoots pictures in a decent quality and, most importantly, for its ability to shoot pictures underwater.



In the case of my other two locations I needed equipment to record sound around the camera in order to get the *full* experience of the environment. The lack of proper sound recording technology in my GoPro camera made me buy a decent field recording instrument (Zoom Hn2) with a 4-channel microphone. On a representational level this kind of technology corresponds more with a phenomenological desire to achieve a *full* experience in the field. At least in comparison with the

visual properties of a 2D camera. Its omnidirectional microphones make the recordings way more flexible in terms of perspectives to gather information. In combination with a 2D camera technology (my GoPro camera) I decided that this would be a great set of instruments to use in the field. I bought a small black tripod for each recorder and a few other accessories to keep them safe, clean and useful in rainy and windy weather.



Castaing-Taylor argues elsewhere that observational films are fundamentally different from popular cinema and even classic documentaries. Observational film without voice-over and didactic explanations form a certain epistemology that produces a more clinical and direct ethos of almost scientific standards. According to Castaing-Taylor nonfiction cinema has strong affinities with scientific endeavors:

Nonfiction cinema has always been situated rather uneasily between science and art. In its avowed attachment to reality, its observation of human experience, and especially in its more expository and didactic moments, it often seems a close cousin to science. But in its experimentation, its self-consciousness about form, and its endeavor to transfigure what it apprehends, it also displays affinities to art (Barbash and Castaing-Taylor 2007: 1).

This take on anthropology is closely related to their practice of visual representation. Castaing-Taylor even argues that the mimetic medium of “[f]ilm, uniquely, evokes experience through the *re-presentation* of experience” (Castaing-Taylor 1998: 19). In his latest book with Barbash he is

particularly interested in the intersection between science and art. They claim that the use of audiovisual practices in ethnographic research involves a dual relationship of, on the one hand, the optical perception in our lived experience and, on the other, the role of visual perception in the production of knowledge itself (Barbash and Taylor 2007: 9). I have found it crucial to reflect upon both of these perceptual situations in this inquiry. In the production of *Anthromes*, as well as in the hermeneutic engagements with its relation to other audiovisual artifacts, a question of duration has been apparent. The use of camera technology made it possible to represent a given place in long shots of several minutes. Using longer takes gives fewer opportunities to signify something more or less meaningful by the cuts. Longer takes are also likely to be complex entities, creating problems of intellectual focus. American ethnographic filmmaker and academic scholar David MacDougall writes that

[i]f the shot unexpectedly remains on the screen without further developments, we may feel impatience or annoyance, during which we perhaps look away or withdraw our attention. If the shot continues still longer we may move to a third stage of what might be called “digressive search” (...) our expectations are deliberately confounded and we are provoked into supplying the images with meaning (MacDougall 1998: 213).

This methodological approach is an essential part of *Anthromes* and throughout the shooting process it became more and more evident that it would be the best approach to these landscapes that was already chosen as empirical material. At one point I shot a lot of material with my GoPro camera on a head strap mount when I was swimming in the remeandered river, but I soon realized that these extremely expressive and affirmative images, and this approach to my material generally, was harmful to the effect I wanted to give the viewer. I chose to include long takes in fixed framings as a method to activate the viewer and not distract the experience of perceiving the images. Often camera movement have the effect of imposing disruption on the viewer. It took me many days of shooting video material, traveling and walking around in anthropogenic biomes to finally come up with three suitable examples of landscapes that would make a good empirical background for the questions I wanted to address in my thesis. It was generally demanding to work scientifically within a new transdisciplinary field with a set of different and quite challenging methods that are relatively immature in development and usage. In the same way all hypotheses linked to the inquiry became provisional and constantly in flux. It was basically conducted in the spirit of a so-called *working hypothesis* that might as well end up failing in the end. John Dewey's theory of inquiry is essential to this. He argued that “[a]pplication of conceptions and hypotheses to existential matters through

the medium of doing and making is an intrinsic constituent of scientific method” (Dewey 1938: 439). When working with issues like the Anthropocene in the context of human and social sciences it is particularly complicated to hold on to the initial hypothesis:

(...) it would be hard in any important scientific undertaking to find an initial proposition about the state of facts that has remained unchanged throughout the course of inquiry in respect to its content and its significance (Ibid.: 142).

This became evident throughout my work and I ended up working on several hypotheses that did not make it to the actual thesis. This was a fully intended approach and often thought of as part and parcel of hermeneutic endeavors and phenomenological inquiries in the field.

I

THEORIES OF THE ANTHROPOCENE

This section presents the theoretical framework of my thesis in terms of underlying concepts and anthropological questions relevant to the Anthropocene. An increase of articles in *Nature* and other leading journals are published on the subject, and within scientific communities there are less and less doubt about the proposed periodization of a new geological epoch. But not everyone agrees and with a certain irony geologists seem to be among the least passionate followers of the narrative in the whole scientific community. According to experienced scientists in the field, the last 200 years are not *that* interesting in a larger geological time frame. Since ecologist Eugene Stoermer coined the term and atmospheric chemist Paul J. Crutzen accidentally used it in a conference a new peer-reviewed and transdisciplinary initiative called *The Anthropocene Journal* was published, a journal dedicated only to that particular phenomenon. The Anthropocene is not exclusively an hypothesis conjured among a few scientists in the natural sciences, though. Its terminology may derive authority from geology, but its reach is far broader. The term is a buzzword in several academic, political and artistic environments as well. Social science conferences, transdisciplinary research projects and art exhibitions have used the Anthropocene as a key term. In the exhibition catalogue of the most comprehensive art event globally, dOCUMENTA (13) held in Kassel in 2012, the Anthropocene was described as “the dramatic denouement in a grand narrative of planetary history” being able to invoke a Kuhnian paradigm shift in scientific practices (Bennett 2012: 345). Thomas Kuhn is an obvious thinker to have as reference point in this context and the Anthropocene does evoke signs of paradigmatic changes in a more general scientific perspective that I will touch upon

in a few words. But my emphasis in this chapter is more on ontological questions concerning different ways of comprehending or even rejecting the Anthropocene and its philosophical implications today.

In the core of artistic milieus questions of the Anthropocene are raised in serious and dedicated ways. Recently a collaborative and transdisciplinary initiative between Haus der Kulturen Welt, Max-Planck-Gesellschaft, Deutsches Museum, The Rachel Carson Center for Environment and Society, Munich and the Institute for Advanced Sustainability Studies established a two-year long program under the title *The Anthropocene Project*. They have already published several articles on the subject and introduced the concept to the human sciences (Trischler et al 2013).

The basic idea behind the Anthropocene is often brought into a string of other world views next to e.g. the heliocentric idea of Copernicus that to a certain degree still holds true, but might be threatened by the logic of the Anthropocene when we realize that there *is* a “difference between the sublunar and the supralunary world”. We are stuck in the sublunar world and we have nowhere else to go (Latour 2011c: 9). It is even claimed that Darwin's reintegration of human beings as part of the natural system is a supportive argument to how we understand the Anthropocene. Darwin challenged the narrative of Christianity and the Anthropocene hypothesis might do the same. Maybe human beings are not destined to rule the Earth if human alterations bring negative effects to human well-being? That is the question to be tested in the coming years (Steffen et al. 2011: 7).

It is important to remember that prior to all this sudden fame and attention to the Anthropocene, anthropologists, sociologists and philosophers have been studying similar questions and issues under different names in both the social sciences and humanities for several decades. Three of the most important thinkers in this field complement each other in a way that also suits my characterization of the Anthropocene and anthropogenic biomes. Coming from the same generation Philippe Descola (1949-), Bruno Latour (1947-) and Peter Sloterdijk (1947-) are all slippery to identify and consolidate in any particular academic discipline. They all employ methods and theoretical frameworks from various traditions. Through decades of devotion to some of these questions and issues they have proven that we need to take their work into consideration when we think about the Anthropocene.

The Great Divide

The french anthropologist Phillippe Descola has been working as an anthropologist for many years studying primarily Amazonian cultures, and particularly the Achuar people's relationship to animals have been of interest in his studies (Descola 1996). But since the publication of the french edition of

Par-delà nature et culture in 2005 (transl. *Beyond nature and culture* 2013) he has taken a new path where he allows himself to generalize and form a larger comparative anthropology of different ontologies around the world, including various cosmologies, relational schemes and modes of identification. In this book his message is clear: Western cosmology is based on a false dualism and westerners are the only ones using it and still taking it for granted wherever they go. The dualist construction of a modern naturalism in the West where nature and culture are separated stands alone compared to other modes of identification in the world. Descola insists that an anthropologist of today needs tools to go beyond this opposition in order to “extract oneself from the dilemma of naturalism and its all-too-predictable oscillation between the monist hope of natural universalism and the pluralist temptation of cultural relativism” (Descola 2013: 304-305). He proposes a so-called “relative universalism” where it is more about describing “relations of continuity and discontinuity, identity and difference, resemblance and dissimilarity that humans everywhere establish between existing beings” (ibid: 305). His universalistic approach is quite apparent in his ideas about a new anthropology that should become:

fully monistic, not in the quasi-religious sense of the term Haeckel and subsequently taken over by certain environmental philosophies, nor, of course, with a view to reducing the plurality of existing entities to a unity of substance, finality, and truth, as certain nineteenth-century philosophers attempted to do. Rather, our object must be to make it clear that the project of understanding the relations that human beings establish between one another and with nonhumans cannot be based upon a cosmology and an ontology that are as closely bound as ours are to one particular context. To this end, we need first to show that the opposition between nature and culture is not universal as it is claimed to be. Not only does it make no sense to anyone except the Moderns, but moreover it appeared only at a late date in the course of the development of the Western thought itself, in which its consequences made a singularly forceful impact on the manner in which anthropology has envisaged both its object and its methods (Descola 2013: xvii).

Descola serves us the possibility of both recognizing and maybe even shaking off a certain ontological and cosmological narrative that we have been clinging to in the last couple of centuries in the West. It is particularly his falsification of The Great Divide that I find useful in the context of characterizing the Anthropocene. His claim is based on the argument that this opposition is a singular phenomenon on a global scale compared to the other three ontologies in his book: animism, totemism and analogies. His typology in modes of identification is important to understand before

we go into an inquiry of anthropogenic biomes through the medium of moving images. By identification Descola means:

the elementary mechanism through which this subject will detect differences and similarities between himself and the objects in the world by inferring analogies and distinctions of appearance and behavior between what he experiences as characteristic of his own self and the attributes he ascribes to the entities which surround him (Descola 2013: 8).

The four ontologies, or modes of identification as he conceptualizes them, cover the most fundamental characteristics of cosmologies from anywhere on the planet. One of them, animism, was the one that gave him his initial interest in a structural categorization of cosmologies, but he treats the other three, totemism, analogism and naturalism with the same rigor and careful description. He emphasizes that these four ontologies are not mutually exclusive (ibid.). Naturalism is the most relevant in this study of the Anthropocene for many reasons. As Descola points out naturalism matured as a discourse in the 19th century and became something people practiced and spread out to all parts of the world without paying much attention to other locally distributed ontologies (Descola 2013: 9). The rise of modern naturalism is in many ways parallel to certain historical and material events initiating what we discuss under the name of the Anthropocene. Descola helps us understanding the foundation of The Great Divide and how it influenced everything else from the Scientific Revolution to the Industrial Revolution and how it begins to crumble in our hands in late modernity.¹³

Descola defines modern naturalism in the West as synonymous with an ontology where “by the continuity of the physicality of the entities of the world and the discontinuity of their respective interiorities” we as human species have the status as something exceptional as a species (Descola 2013: 173). Human exceptionalism, the idea that humanity has some kind of ontological privilege, has been criticized a lot in the last couple of centuries (ibid.: 174). In the main argument of the Anthropocene, which in certain ways grants human beings with an exceptional status as well, the logic is somehow reversed compared to human exceptionalism in a modern naturalist context. The logical consequence of the Anthropocene thesis does not make human beings superior to the nonhuman in any ontological sense, if anything it might out-level it completely or even put it upside down, but in an epistemological and historical perspective human physicality, our geomorphological capacity to influence the earth spheres in this particular time period, does

¹³ This phrase is more or less stolen from Gary Snyder when he wrote that “We have been thrown back into that other garden with all the other animals and fungi and insects, where we can no longer be sure we are so privileged. The walls between “nature” and “culture” begin to crumble” (Snyder 1995: 236)

actually give us an exceptional status on Planet Earth. This means that the Moderns have gone from a position where they felt superior on this planet in an urge to gain world mastery, but in this quest they have placed themselves in an unanticipated situation of being the main driver of unintentional planetary changes that might threaten the previous condition of relative stability in the Holocene (Steffen et. al 2011b).

The logical consequence of the Anthropocene would epistemologically bring an end to the human being's exceptional status as it is defined in the realm of modern naturalism. The exceptional status of human life today is more a matter of geophysical fact and not just a singular and misconceived cosmology of the West, a cosmology based on a mixture of arguments in Judeo-Christian thought and later neuro-scientific arguments related to human interiority (Descola 2013: 67-68). As mentioned above we are now manifesting ourselves as one of the – if not *the* most – dominant geophysical force on the planet. It is in our actions, and in “the devastating effects of our lack of concern and our voracity for the global environment, for which we are mainly responsible, given that our means of acting upon it bear no comparison to those of other actors in the terrestrial community” (Descola 2013: 198), that we are becoming truly exceptional. The Anthropocene hypothesis does not necessarily put an immediate end to the history of modern naturalism, but it could potentially give room for new modes of identification in the West.

If the Earth is going through an extraordinary geomorphological phase, and everything points towards extraordinary anthropogenic changes in the climate and elsewhere, this metamorphosis is mainly our creation and leaves us with challenges to make new forms of agency. So how do these forms of agency look like in the Anthropocene? In the work of Descola there are no clear-cut manuals, but he does provide us with a new language to communicate about these issues. One of Descola's main arguments, one he admits to have inherited from Gregory Bateson, is that the study of social life is to be done from the point of view of the relations that hold it together (Descola 2013: 92). These relations are often based on continuities of different kinds, and what makes this particular focus relevant here is the way he clarifies different ways of making continuities between the human and the nonhuman:

Between the human and the nonhuman there no longer exists the radical discontinuity of transcendence or the ruptures introduced by the mechanization of the world. It is only in our eyes that they are differentiated, and differentiated according to the manner in which we choose to objectivize them (Descola 2013: 77).

It is evident that Descola rejects any ethnocentric or Western dualistic dogma that sees Nature as

something universally autonomous and separated from humanity. He argues several times that it is a quite recent phenomenon and for several reasons it is hard not to relate this argument to the origin and development of the Anthropocene. The intellectual history of modern naturalism shows that this kind of ontology matured in the West before The Industrial Revolution started and it influenced the way science and eventually civilizations around the world changed so rapidly (Descola 2013: 68). It is quite tempting to do a contrafactual history of this argument. What if The Great Divide between nature and culture never occurred and developed into what it is today in the history of ideas? Would we discuss a periodization of a new geological epoch today if it never happened? Descola answers this question in a rhetorical way by quoting Maurice Merleau-Ponty's statement that “[i]t is not scientific discoveries that brought about change in the idea of Nature. Rather, it is the change in the idea of Nature that has made those discoveries possible” (Descola 2013: 68). And Descola goes on himself: “The Scientific Revolution of the seventeenth century legitimated the idea of mechanical nature in which the behavior of every element can be explained by laws, within a totality seen as the sum of its parts and the interaction of those elements” (Descola 2013: 68). So if we should take this contrafactual experiment out *in extremis* we can conclude that we would not have seen the consequences we have seen of the steam-engine or any of the other main technological trigger points in the rise of The Industrial Revolution if our cosmological understanding of Nature did not change prior to this process.

As stated above, new modes of identification and relational schemes may emerge when more and more westerners perceive and understand what the Anthropocene is all about. At the moment there is not a total consensus concerning the Anthropocene narrative, but some of its content might attract more and more attention and eventually correspond to Descola's definition of how a new relational schema emerges and becomes dominant: “A relational schema becomes dominant in a collective when activated in a whole range of very different circumstances in relations with humans or nonhumans” (Descola 2013: 310). He reassures us that we cannot build something new on the basis of one particular and already existing ontological tradition. As stated so many times in related debates there are no panacea to the ecological crisis of the Anthropocene. There is:

[no] source of instruction valid for all situations. Neither nostalgia for forms of living together, the muted echoes of which are conveyed to us by ethnographers and historians, nor the prophetic wishful thinking that animates certain quarters of the scholarly community offers an immediate answer to the challenge of recomposing into viable and unified groups an ever-increasing number of existing beings needing to be represented and treated

equitably (Descola 2013: 405).

One should nevertheless remember not to blame *everything* on the dualistic cosmology of the Moderns. Nor should we go into reductionist postulations about the West as a monolithic and all-encompassing social entity where everybody subscribes to an extremist version of this dualism and nothing else. What we learned from Descola is his way of paying attention to some of the over-all structures in the history of The Great Divide. His point is not that we should *only* see continuities between the human and the nonhuman, but rather that we should *also* and more often (than we have done in the last couple of centuries) see continuities, because they are as equally numerous as discontinuities (Descola 2013: 86). In the case of intentionality he acknowledges the fact that we as a species (his example is from an article on children's early perception of the world) register differences among living beings, but he does not see this as proof to any claim of human exceptionalism: “consciousness of certain discontinuities between humans and nonhumans is not in itself enough to create a dualist cosmology” (ibid.). Descola goes on to qualify this argument by referring to the fact that the Moderns only managed to separate what they saw as nature and culture in theory, but they actually failed to do this in practice vis-a-vis Latour's book *We have Never Been Modern* (Latour 1993).

Nonhuman nature has gone through an extreme anthropogenic change throughout the 20th century. Humans have altered ecosystems “with such intensity, on such scale and with such speed” that it might be the most important aspect of earth's history for centuries (McNeill 2000: 3-4). If this should change, and not all would agree that it should, another ontological understanding of human existence would have to develop. In *Beyond Nature and Culture* Descola describes how such an ontological regime develops. The Anthropocene contains certain epistemological ingredients for a new ontological regime that could go through a process similar to the one Descola describes in the following paragraph. It could eventually change the most common modes of identification among humans and nonhumans:

Certain ways of treating “others” that are present in a minor form in one mode of identification sometimes come to play a predominant role that soon renders them incompatible with the ontological regime in which they have developed; and this makes it necessary to alter that ontological regime or transfer to another mode of identification that is better suited to a different way of treating others (Descola 2013: 366).

What modern naturalism has caused in its treatment of “others”, nonhuman as well as human, might

have consequences if one follows the logic of Descola's theory. In an almost deterministic way ontological regimes, in the eyes of Descola, sooner or later become unable to make a coherent relationship between its actors and develop into something anachronistic and out of touch with a new reality that intrinsically demands other relational schemes. He goes on into speculations on why and when ontological regimes are bound to change:

the disintegration of a previously preponderant relationship, is fundamental to the process of change. It usually comes about when circumstances generated by the vagaries of history, climate change, or the unintentional effects of human action on the environment force peoples to adapt to different milieux or to ones in which the usual characteristics have changed for the worse (Descola 2013: 389-390).

The accumulation of unintentional effects of human civilization after The Great Divide is far-reaching and nowadays what science as well as the public talk about is primarily resilience and adaptability. Sustainability is not a goal in itself anymore. It has become a word representing a limited and relative condition of gradual variety. It is an anachronistic term belonging to a pre-Anthropocene age or maybe something beyond the Anthropocene. So what are the possibilities if we do not want to speculate too much about a world without humans (Weisman 2007)? Even though he does not give us any clear-cut manuals, Descola does point at potential epistemological gateways to a solution. If a new equilibrium of any kind should develop he argues that,

chance and arbitrariness are indispensable in the gestation of a new order or equilibrium, that a new order, without being altogether predictable, does come about following certain organizing rules and principles of compatibility that are less fortuitous than the events that prompted its development (Descola 2013: 390).

Issues of resilience and sustainability should inevitably include considerations of human agency and intentionality. Especially considerations on unintentional effects of how human and nonhuman beings interact are important. Human agency and good will is not enough in itself. Other factors will make it difficult to act. As a consequence of this there should be room for unintentional effects in this process of shaping new designs of anthropogenic nature.

Who are the Moderns?

We have now more or less clarified the most basic elements of how modern naturalism in the West constituted itself and it is thus easier to transcend the cosmological composition of the Great Divide which – not too surprising – seems to be a native of the Anthropocene. Bruno Latour takes us into a more methodological reflection of how to approach the Moderns and the Anthropocene. What kind of truth regimes, or modes of existence as he calls them, are able to tell us something about the Moderns and how do we understand them anthropologically?

Bruno Latour is an anthropologist, philosopher and sociologist who initially worked in the intersection between science and technology. He has recently broadened his field of inquiry into a more general question of the relationship between the human and the nonhuman (Latour 2004). After the exhausting Science War debate related to *The Laboratory life* (1979) most people know Bruno Latour for his statement in the title of his later book *We have never been modern* (1993). Another famous part of Latour's work is his actor-network theory and the way he tries to “redefine the notion of social by going back to its original meaning and making it able to trace connections again” (Latour 2005: 1). Tracing social connections involves inquiries into the nonhuman which is also a requirement of working with the Anthropocene hypothesis. The actor-network theory will become relevant in the trajectory of seeing the Anthropocene in a broader theory of science perspectives in Part II. Following the actants of the Anthropocene across disciplinary boundaries does indeed demand an associative method, but this thesis is not an all-encompassing empirical research of anthropogenic biomes. That would be too demanding. In order to introduce the narrative of the Anthropocene to the reader I will briefly touch upon a few of the most important truth regimes concerning anthropogenic landscapes and bring a few essential questions into light and discuss them further in Part III.

In *An inquiry into Modes of Existence* (abbr. AIME 2013) Latour tries to answer what we have been if, as he claims is the case, we have not been modern. In other words he presents a positive answer to the question of what happened to those who claimed to be modern but – in his view – never deserved this label (Latour 1993). In his own version of empirical philosophy Latour emphasizes some of the things we heard from Descola. What we need now is an anthropology of the Moderns (Latour 2013: 261). In AIME he tries to relate different regimes of truth making in the Anthropocene that is not “the advent of Science” with a capital S and its solipsistic way of producing objective knowledge (Latour 2013: 70). He describes several modes of existence that could, in their own specific way, contribute to an anthropology of the Moderns. He argues that before going into a comprehensive actor-network trajectory each mode of existence has to be

understood in and by themselves in order to be sufficiently connected to a broader actor-network with other modes of existence (ibid.). In this case the phenomenological and aesthetic experience of doing visual anthropology in anthropogenic landscapes is related to at least two specific modes of existence which Latour presents in AIME. Especially Latour's more general argument about 'beings of fiction'; that we should follow the expression *ad augusta per augusta*, to the heights by narrow roads, and accept that each road, or “each preposition thus defines a way to *make sense* that differs from the others” (Latour 2013: 237). A being of fiction has its own specific ways of producing knowledge and truth. And whatever tools or methods we use to describe the world it is never detached from the world: “...– the figure can never actually detach itself [...] from the raw material” (Latour 2013: 244). Any artifacts of e.g. cinema is a “surprising anthropomorphic figure” that incorporates both a technological and aesthetic mode of existence in the Anthropocene. It does not represent something that only “resides *in itself*, but always also *in the others* that precede and follow” (Latour 2013: 256). What we are looking for in this mode of existence is a sign of truth. This is always preceded by a way of making sense. But if, as Latour writes, “everything *makes sense*, this does not mean that *everything makes signs*” (Latour 2013: 237). He defines a sign as something that “emanates from a mode of existence in due form” (Latour 2013: 237). A way of making sense should always be aware of the way it uses its own format and eventually be able to “form a sort of regional semiology and ontology proper to a particular mode” (ibid.).

One of Latour's main arguments is that it has generally become harder if not impossible to separate the nonhuman from the human. There is a common narrative today saying that we are not in touch with Nature (in the sense of everything nonhuman in the sublunary sphere), but Latour argues that in reality we have never been physically out of touch with the nonhuman world. We have continuously created synthetic forms of objects that includes both human and nonhuman agents. Latour provocatively urges us to love them in all their monstrosity and especially in the process of designing or re-designing them (Latour 2011a). The highly entangled mixtures of both human and nonhuman materials in the Anthropocene goes beyond a simple synthesis of the two. Latour gives an example from Venice, where the different technologies employed to save the city from floods have had massive consequences in the city's long history. Recently local politicians and entrepreneurs intended to utilize new technology in the form of new floodgates, but local organizations have been fighting the idea since the 1970s because it *might* cause environmental damage in the long run, not because it does so in itself. But as Latour points out:

Each new act of salvation will result in new unintended consequences, positive and negative, which will in turn require new acts of salvation. What we call “saving the Earth”

will, in practice, require creating and re-creating it again and again for as long as humans inhabit it (Latour 2011a: 13).

This could be interpreted as too relativistic an argument, because larger projects of environmental management often bring considerable risks, intentional or not, and it seems like Latour makes fun of any consciousness of risk. This is probably not the case. Latour's argument is rather that such interventions should not be prevented just because they introduce *new* technology that *might* have unintentional environmental consequences, because in his eyes all human action on this planet have some unintentional consequences, and technology has proven helpful in thousands of cases, also in benefit of the nonhuman. Humanly designed infrastructure is not bad in itself. It is a matter of whether this new technology is *well* or *badly* constructed. The issue of design is described in another article by Latour where he describes the term in relation to the works of Sloterdijk. Before turning to Sloterdijk he argues that “the typically modernist divide between materiality on the one hand and design on the other is slowly being dissolved away.” (Latour 2011b: 152). The Anthropocene makes everything on this planet more or less *designed* (with or without intention) and part of what is called materiality. He argues that nature is in great need of being re-designed and that we should leave the realm of matters of fact and replace it with matter of concern. Drawing a rather rough line between the modernization front of “emancipation, detachment, modernization, progress and mastery” and the ecologizing front of “attachment, precaution, entanglement, dependence and care” he sees a potential in using the notion of design to promote the ecologizing agenda (ibid.). Design implicates modesty, humility and a way of paying attention to details in the way one takes action and (re-)designs the world. It is a particular approach and practical ethos Latour did not see in the modernizing front of the Industrial Revolution. Expanding our understanding of the notion, he adds a necessary noun that should follow any design: precaution. In combination with engineering, the precautionary principle should be activated. Another dimension of the term is the necessity of an interpretative approach that he urges us to practice in order to “to witness the depths to which our daily surroundings, our most common artefacts are said to be designed” (Latour 2011b: 154). Design is not only about semiotics, hermeneutics and modesty. It also includes ethical questions that includes a normative dimension. The question is always whether a thing – or an anthropogenic landscape – is “well or badly designed” (ibid.: 155). But first of all one should learn to approach old technological designs as monsters we should either dismiss completely or carefully redesign into something better. We have simply confused “the monster with its creator” by blaming technology itself and not the engineers: us humans. We should learn:

to *modernize modernization*, to borrow an expression proposed by Ulrich Beck. This challenge demands more of us than simply embracing technology and innovation. It requires exchanging the modernist notion of modernity for what I have called a “compositionist” one that sees the process of human development as neither liberation from Nature nor as a fall from it, but rather as a process of becoming ever-more attached to, and intimate with, a panoply of nonhuman natures (Latour 2011b: 22).

This compositionist strategy is in line with his thoughts on design. What Latour accomplished in his articles 'Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern' (2004) and 'Steps Towards the Writing of a Compositionist Manifesto' (2010) is 1) a rejection of an automatized constructionist disbelief in matters of fact and 2) to get rid of an old anachronistic critical spirit and replace it with a more pragmatic one by shifting from matters of fact to matters of concern. From now on it is not about endless debunking but rather protecting, redesigning and caring for institutions and technology. Maybe “explanations resorting automatically to power, society, discourse had outlived their usefulness and deteriorated to the point of now feeding the most gullible sort of critique?” (2004b: 229-232). What he argues is that,

[c]ritique, in other words, has all the limits of utopia: it relies on the certainty of the world *beyond* this world. By contrast, for compositionism, there is no world of beyond. It is all about *immanence*. (Latour 2010: 475).

The question of immanence will be discussed more in detail in the section on Sloterdijk. What is important here is the way Latour suggests that we leave the debunking strategy of a resource, which he calls “the main resource of intellectual life in the last century” and rather engage ourselves in topics to be carefully studied (Latour 2010: 475). In this inquiry anthropogenic landscapes became that topic to be carefully studied. And Latour already helped us take one or two steps towards deliberately perceiving and understanding them as essential features of the Anthropocene. In one way we learned that we have to see ourselves in a historical period where we are conflicting with the rest of nature because of the physical-material situation we have put ourselves in, but we also learned that ontologically there are always endless continuities between humans and the rest of nature. In the capacity of being so numerous as a species and changing the planet in the way we do, humans have agency in a way we never had before. The artifacts chosen for the discussion in Part III presents just a few representations of relevance to this question, primarily in a phenomenological perspective. It will form an inquiry into “the aesthetics of matters of fact” or what Latour describes

as:

a historically situated aesthetics, a way to light objects, to frame them, to present them, to situate the gaze of the viewers, to design the interiors in which they are presented – and of course the politics with which they are (they were) so strongly associated (Latour 2011b: 159).

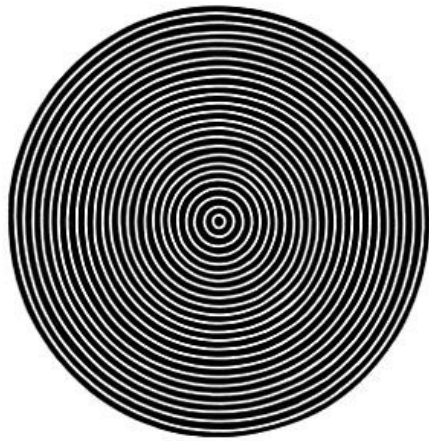
That will be the framework of approaching anthropogenic landscapes, their historical content as well as phenomenological dimensions, and eventually perceiving them as essential attributes of the Anthropocene. If we learn to experience these landscapes, if we engagingly learn to listen to and look at them in the wake of this new hypothesis, we might take a leap into new epistemological realms of understanding the human condition in a stronger relationship to the nonhuman.

Being in spheres

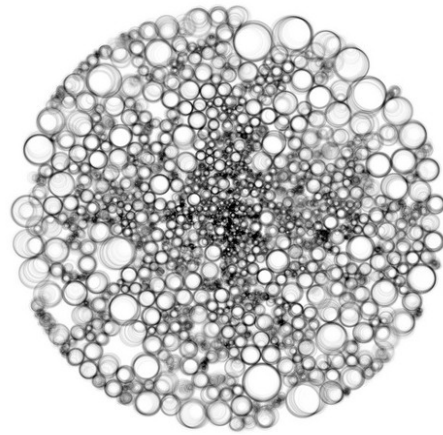
Peter Sloterdijk's spherology provides us with an appropriate theoretical background to understand the spatial dimension of being human in the Anthropocene and to comprehend the phenomenon of anthropogenic biomes. His publications are best captured in the framework of anthropological philosophy and his magnum opus is a trilogy in three volumes titled *Spheres: Bubbles, Globes and Foam* (1998 (2011), 1999, 2004). In this trilogy he tries to transcend some of the most essential elements of Martin Heidegger's phenomenological inquiries in *Being and Time* by adding new content to Heidegger's work on especially spatiality. In Sloterdijk's opinion Heidegger's work should have been named *Being and Space* (Schinkel and Noordegraaf-Eelens 2011: 12). The spatial dimension of dwelling and being-in-the-world, what Sloterdijk re-phrases as being-in-spheres in *Bubbles*, is the key to understanding the whole trilogy. In this book his “bubbles” are “microspheric units” that “constitute the intimate forms of the rounded being-in-form and the basic molecule of the strong relationship” (Sloterdijk 2011: 62). It is a philosophical reflection of the first intimate relation with the world individuals go through in the placenta of a mother. In the final line of *Bubbles* Sloterdijk concludes that we do not need to ask ourselves who we are in the world of today, but we should rather ask, “Where are we when we are in the monstrous?” (Sloterdijk 2011: 630). To the human eye (and that is the perspective available to us, because we are always already anthropocentric in one way or another) the Anthropocene does indeed look monstrous. At the same time we know that the Earth itself does not care. It is not able to see itself as monstrous, but from a human perspective the rapid changes seem to be *strange* and *unnatural* compared to what we know

about the Earth in the Holocene. Sloterdijk's spherology is a useful tool to comprehend where we are when we are in the Anthropocene. It is an “anthropology beyond humans” describing how we are inside spheres we usually tend to ignore (Sloterdijk 2011: 54). What we are to learn from Sloterdijk in the case of our theme anthropogenic biomes is his emphasis on Dasein as a form of *design* and how we are always involved in “spheric circumstances” that calls for an ecstatic immanence (Sloterdijk 2011: 78). If we are to comprehend the phenomenon of anthropogenic biomes Sloterdijk's spherology of retracing “the formations of shapes among simple immanences that appear in human (and extra-human) systems of order” would be a good theoretical starting point (Sloterdijk 2011: 80).

Sloterdijk's critique of the classical metaphysics is related to the fact that it was built on concentric circles in a forced abstraction that ultimately led to “flawed immunological design to begin with” (Sloterdijk 2011: 68-69). On the other hand Sloterdijk emphasizes that it is important to practice a historical immunology and avoid any glorification of an immunological construction from the past *eo ipso* its ancient and often nostalgic connotations. That would lead to a form of traditionalism. Sloterdijk writes that there is something peculiar about the Christian epoch of Western immunological history. That there was a certain decline in this particular immune system and that it had “to result in the technization of immunity that characterizes modernity” (Sloterdijk 2011: 69). He argues that the Catholic Old Europeans thought the Modern Age became a matter of spheric blasphemy, but again he tries to avoid falling into the trap of nostalgic longings for a immunological system in the past. Instead he goes into a different analytical approach where he focuses on “the catastrophes of world form in modernity” (Sloterdijk 2011: 70). It is from this point he builds up a critique of the current immunological system dominating most of the world of today. He argues that human beings do not inhabit a polyspheric world of concentric circles sharing the same center any longer. They live in so-called *foam* which is also the title of his third volume in the trilogy. There is no “single, integrative hyper-orb, as in the metaphysical conception of the world”. All the foam is “drawn together to form irregular hills”. What takes us away from pre-Modern or pre-Anthropocene times is a general immunology that is without any fixed center: “When everything has become the center, there is no longer any valid center” (Sloterdijk 2011: 71).



Concentric circles



Foam

The spherological imperative of Sloterdijk could also be seen as one of the basic ingredients in the imperative of the Anthropocene hypothesis. The premise of accepting the Anthropocene is easier to achieve if we learn to understand Sloterdijk's idea of a *General Immunology*. In *You must change your life – On Anthropotechnics* (2013) he states that General Immunology “is the legitimate successor to metaphysics and the real theory of 'religions'” (Sloterdijk 2013: 451). He takes the word immunology from branches of biology and medicine and turns it into a metaphor for human life in spatial spheres of both a symbolic and a physical-material kind. This particular 'in' is important to Sloterdijk. It refers to a certain intimacy of 'inhood' that we as human beings experience from early on in the placenta of our mother's womb. There are a few steps to take in order to understand what his spherology tells us from this point. Firstly, it demands that one transcend all previous distinctions between own and foreign; thus the classical distinctions of friend and foe collapse: “Whoever continues along the line of previous separations between the own and the foreign produces immune losses not only for others, but also for themselves” (Sloterdijk 2013: 451). In a wordplay related to a controversial subject (read: communism) he announces that we should build a so-called “co-immunism”.¹⁴ This co-immunism should in many ways be the collective result of reaching an ecstatic immanence of the so-called 'inhood'. He argues that what we have to return to is an understanding of immanence beyond certain dogmatisms in religion and externalizations in metaphysics. You live “immanently” if you “know how to remain (*manens*) in the inside (*in*) for which the strong relationship makes room” (Sloterdijk 2011: 609). This relationship is the preceding step to find a way of paying attention to certain kinds of spatial spheres

¹⁴“The history of the own that is grasped on too small a scale and the foreign that is treated too badly reaches an end at the moment when a global co-immunity structure is born, with a respectful inclusion of individual cultures, particular interests and local solidarities” (Sloterdijk 2013: 451).

we have ignored in several decades. Many anthropogenic landscapes are usually more or less non-intentional results of human actions that we could establish an ecstatic immanent relationship to and eventually begin to care for. Sloterdijk argues that the big issue today is transcending the opposition between “being-in-God” and “being-in-nature” into a “general logic of being-in-the-shared-spaces” (Sloterdijk 2011: 583). Prior to this logic we would either perceive anthropogenic landscapes in a metaphysical light or talk about them as something outside the realm of nature and we would primarily seek ecstatic immanence in houses of worshipping. By contrast, in Sloterdijk's reading of Heidegger, today “any ordinarily God-forsaken point in the outside can become a place of the authentic self” (Sloterdijk 2011: 629). In Heidegger's writing Sloterdijk finds an imperative to leave any illusion of finding truth in the inner person and instead “become involved with the monstrousness of the external” (ibid.). This monstrousness is, as we saw above in the work of Latour, an essential part of the Anthropocene. In Part III I will describe my own involvement in the *external* world by portraying three different examples of monstrous but conceptually interrelated anthropogenic landscapes.

II

ORIGIN OF THE ANTHROPOCENE

Several of the most dominant narratives concerning the Anthropocene come from a new environmentalist ethos rejecting all hopes of sustainability. Most of the people would either call themselves and/or be referred to as postenvironmentalists or neo-environmentalists. It is an ethos based on the belief that we cannot hold on to the relatively stable condition of the Holocene period. That conservation strategies of keeping parks and reserves untouched by human interference are far from enough to keep the planet habitable to not only human but also many non-human animals. There is a feeling of fatalism in these narratives. Even the most solid beliefs in sustainability are rejected within this framework. The idea that the Earth could reach any kind of equilibrium or balance is far-fetched. We cannot even turn our clocks back and believe we live in the Holocene. We might be stuck in the Anthropocene for good and delete the Holocene from the geological time line. If we on the other hand would like to falsify the hypothesis, leaving the Anthropocene behind us in a small historical footnote, would this require either a radical non-human intervention (of possible catastrophic character) or a radical human re-design of earthly life? These are questions for the future.

Among geologists there is a growing consensus that we might live in a new geological epoch called the Anthropocene (Zalasiewicz et al. 2011). Across scientific communities it is talked about as one of the most defining labels attached to the historical period after the Great Acceleration and The Industrial Revolution (McNeill 2000, Steffen et al. 2011a). The Anthropocene is characterized by different stages of acceleration, but World War II is said to be an essential event initiating this development. It was in this period we saw a rise in urbanization, population growth, damming of rivers, fertilizer consumption, motor vehicles, water and land use as just a few of the many new tendencies of the 20th century and the Great Acceleration (Steffen et al 2011a: 851).

For some time it has been argued among earth evolutionists that biological life has indeed been influencing the way the Earth looks like today (Hazen et al. 2008). Now the Anthropocene hypothesis tells us that a more specific biological entity, the species of homo sapiens, have been the most dominant force of nature capable of changing both geological and biological processes in the earth spheres within just a couple of centuries. As a consequence of this Sloterdijk now argues that “[h]umanity becomes a political concept” (Sloterdijk 2013: 451). There are still controversies going on about this hypothesis between scholars in the humanities, the social sciences and especially in the natural sciences. Some social scientists and historians would argue that you cannot reduce all human beings to the species level, because that would make us blind to social injustice and power structures between human beings. Something one could argue was one of the key factors making this development possible in the first place (Malm 2012: 120). Others would say that it is indeed necessary to read climate change and the Anthropocene as a result of a crisis in capitalist management, but at the same time it is also important to look beyond this perspective and look into species thinking and the deep history of human life on this planet (Chakrabarty 2009: 213). Another critique relates to the question of stratigraphy and disciplinary accuracies. Within the natural sciences many geologists would argue that we need much more than a few human fingerprints to create a new geological period and ultimately confirm this hypothesis: “a stratotype that records a continuous, preferably marine, sedimentation record and separates the Anthropocene from underlying units needs to be identified and correlated into the global time stratigraphy”. (Autin and Holbrook 2012: 60-61). This work is already being prepared, but as Chakrabarty points out, it is also important to go beyond disciplinary prejudices, when working with issues like this academically, and avoid scientific jargon in the context of a notion that has a lot to say outside e.g. the natural sciences (Chakrabarty 2009: 215).

The many narratives of the Anthropocene originates from a conference conversation which the Dutch Nobel prize laureate and chemist Paul Crutzen attended. Ever since Crutzen intuitively came up with this notion, narratives of the Anthropocene have spread with the speed of light in both

public and scientific communities. Though several concepts prior to this one are made of the same ingredients as those behind the Anthropocene¹⁵, it has proven to be a much more vital and sustainable discourse than any of its ancestors. In geological time we are in the Quaternary, and within this period geologists have agreed on two epochs, the Pleistocene and the Holocene. We are in the latter, and it is a rather short epoch in geological terms. It began only 11.500 years ago, and if the scientists want to add another epoch to the other two within the Quaternary period, they would have to produce hard evidence. The International Commission on Stratigraphy and the International Union of Geological Sciences is a group of earth scientists and geologist who are working to establish evidence on the Anthropocene hypothesis. They are mentioning a variety of evidence for what could become trace fossils of so-called *human fingerprints* in the fossil record. Today evidence of ocean acidification might change the marine ecosystem, including causing a decline in biodiversity, and by that create an important event in the fossil records of geology (Zalasiewicz et al. 2011: 837). Another often mentioned element is the massive human modification of landscapes that have led groups of scientists to explore potentially long-lasting lithostratigraphic signals in the sediments of such places as Glasgow, one of the first industrial cities in the world (Vane et al. 2011).¹⁶ These are just a few of the many investigated projects going on in contemporary natural science departments.

When did it *actually* begin?

One of the most debated questions related to the hypothesis is the ontological issue of when the Anthropocene actually started. What is commonly taken for the most authoritative group of scientists working on the hypothesis argues that “the advent of the Industrial Revolution around 1800 provides a logical start date for the new epoch” (Steffen et. al 2011a: 842). Since the Industrial Revolution in itself is a matter of dispute, people have been challenging the proposal and a number of sources talk about drawing the line much later around the year 1950. Starting in the 1950s several atomic bomb tests left significant long-lasting traces around the world and simultaneously the Great Acceleration is said to have taken off around those years with several skyrocketing graphs of proof in e.g. human population growth and other new trends mentioned above (Steffen et al. 2011a).

If the Anthropocene stems from thoughts around the Scientific Revolution, or even further back to the first signs of human agriculture 8000 years ago (Ruddiman 2003), and it was more

15 In an overview of the etymological development Pálsson et al. (2012) are mentioning early concepts from 1873 when Stoppani coined an 'anthropozoic era' (1873) and later resembling concepts like 'noösphere' (Vernadsky et al. 1922), 'Homo collusus' (1980), 'anthrocene' (Revkin 1999) and 'homogenocede' (Samways 1999).

16 Human modification of landscapes is a central issue in this thesis. Anthropogenic landscapes and biomes are discussed extensively in the following sections.

substantially effectuated by the Industrial Revolution in the West, we might have to put the initial responsibility on the shoulders of a variety of people in history. It remains a mystery how we actually came to a situation where so many unanticipated consequences of this development *is* a tangible reality almost anywhere on the planet. In the prime time of Western industrialization Max Weber asked: “what combination of circumstances have led to the fact that in the West, and here only, cultural phenomena have appeared which – at least as *we* like to think – came to have *universal* significance and validity?” (Weber 1920: 13). I would argue that the cosmological structures of modern naturalism (in the definition we clarified in my reading of Descola earlier) in the West *and* new technologies in transport, energy production and land use fostered a special cocktail that gave *some* people a powerful belief in their own right to make universal statements and act upon them around the world. After more than a century this led to some positive and some negative, but nevertheless also many unintentional consequences. Today the world surface has changed radically and all forms of life will probably have to go through times of irksome adaptation in hope of avoiding the most devastating and traumatic disasters (McNeill 2000: 362). For the same reason more and more attention has been given to resilience as an answer to future management of human civilization. Especially concerning the so-called planetary boundaries often mentioned and defined by the Stockholm Resilience Center as “the safe operating space for humanity with respect to the Earth system and [...] associated with the planet’s biophysical subsystems or processes” (Rockström et al. 2009: 472).

In *Something New Under the Sun – An Environmental History of the 20th Century* (2000) environmental historian John R. McNeill draws a world map and a time line through the 20th century of the most significant material changes brought on by human actions. He primarily leads us closer to the physical-material consequences and only briefly does he touch the ideological ingredients behind the powerful cocktail of thinkers and engineers changing the planet in such a rapid way in the 20th century. Most environmental scientists and historians agree on the fact that human use of fossil fuels like coal and later oil and gas have been the main drivers in how the world changed throughout the 20th century and into the 21st, but some have tried to go down to some of the first trigger points to find out *why* and *how* it all began. McNeill's main arguments on this point is that “[c]oal of course had found uses for centuries, mainly as fuel for heating. But the steam-engine's capacity to convert that heat into mechanical energy capable of doing work opened up new possibilities” (McNeill 2000:13). This leap in technological development is also a mystery to environmental historian Andreas Malm. His research goes back to the historical events behind these phenomena in England and takes the hypothesis even further and proposes, on the basis of historical sources, that people knew that with James Watt's patented *rotary* steam engine in 1784 “the world

would never be the same again” (Malm 2012: 109). Malm is particularly interested in the social ramifications of how some people gained “power to do almost anything, or so it seemed” as a consequence of this new technology (ibid). It was from this point in history that Malm characterizes a groundbreaking rise in perpetual and “ever-growing consumption of fossil fuels, generating a sustained rise in carbon emissions and, by laws of biogeochemical necessity, a concomitant increase in the atmospheric concentrations of carbon dioxide” (ibid).

Others have argued that we should put the date much later, namely when the real increase in human energy consumption was brought on with the Great Acceleration after World War II (Steffen et al. 2011a: 849). As mentioned above climate scientist Will Steffen goes into consideration about whether the origin of the Anthropocene should actually have its starting point around The Great Acceleration (ibid). It is hard to find consensus on this issue. As Bruno Latour has argued in a more general discussion on the beings of technology (which is one mode of existence among the Moderns) that there are two levels in this, “the starting level and the one toward which you have precisely shifted gears by installing in it actors who possess different resistances, different durations, different degrees of solidity” (Latour 2013: 229). Historical dispute will go on and for good reason. It is hard to blame specific builders of certain technologies when the massive consequences we have seen coming out of these inventions are not intentional. But it is nevertheless important to do research in the social and cultural mechanisms behind technological revolutions in order to understand the phenomenon and what comes after in terms of how these technologies were adopted.

Human exceptionalism

One of the main critiques relate to the semantics of the Anthropocene. It could very well be understood and developed as an extended version of modern naturalism. While Malm agrees that we have moved out of what Steffen has called “the envelope of Holocene variability” (Steffen et al. 2011: 850) he disagrees strongly with the semantics behind the Anthropocene term itself. Malm argues that the Anthropocene theory “confuses *invention* with *adoption* and *diffusion*” (Malm 2012: 109). Malm seems to be aware that maybe it was not the technology in itself, but the uniqueness of fossil fuels in combination with human ingenuity that made everything kick off: “But exactly what properties made its tremendous power possible? Ultimately, they were derived from the fossil fuel itself: from coal, the full potency of which was now realised” (Malm 2012: 115). Malm takes a sociocentric point of view qua his sociological and historical approach. He sees history through the panopticon of human behavior and argue that we should be more precise about the origin of a new

epoch, because we might pay injustice to people who did not contribute as much as others to the Industrial Revolution and the rise of modern capitalism. To him “[t]he Anthropocene must be a misnomer” (Malm 2012:119). He rejects its descriptive value. His argument about power is legitimate, but it is blurring a more general and relevant discussion. It is basically a clash between several ways of dealing with epistemology and disciplinary boundaries. Malm's interpretation is based on the premise of seeking responsibility and justice in a socio-historical context and he does that by focusing on the rise of modern capitalism. He avoids the fact that the invention of fossil fuel technology gave rise to a snow ball effect of unintentional effects that eventually led to an extreme population rise among human species and other features of the The Great Acceleration. It would be a teleological argument in the sense of explaining the Anthropocene in final causes all reducible to the origin of modern capitalism. Historian Dipesh Chakrabarty points this out in the third of four theses in an article on climate change and the Anthropocene (Chakrabarty 2009: 212). Chakrabarty simply tries to bridge the natural science perspective of species thinking with the social science perspective on cultural and historical structures among human collectives. As mentioned above, he does see a point in relating the Anthropocene to capitalism, but at the same time he says that “the current crisis has brought into view certain other conditions for the existence of life in the human form that have no intrinsic connection to the logics of capitalist, nationalist, or socialist identities” (ibid: 217). Chakrabarty seems to be saying that any analytical departure in the logic of those three ideologies does not have the key to understand the whole phenomenon of the Anthropocene. Instead he goes into a position which is very close to an idea of human exceptionalism that I cannot completely agree with: “because humans constitute a particular kind of species they can, in the process of dominating other species, acquire the status of a geologic force” (ibid: 214). In this case it is important to emphasize that the exceptional status of human beings is only of historical and temporary status. It is not based on any kind of fundamental ontology. Humans are only exceptional in a descriptive and historical way. This is pointed out when Sloterdijk plays with the book title of John R. McNeill's book and states that “...there is nothing cognitively new under the sun. The novelty of the new [...] stems from the unfolding of the known into larger, brighter, more richly contoured surfaces. Consequently, it can never be innovative in an absolute sense; in part, it is always the continuation of the cognitively existent by other means” (Sloterdijk 2013: 7). In other words, contrary to what Malm has been arguing, Sloterdijk seems to say that it is more a question of tricky historical circumstances than a one size fits all argument of exclusively blaming an unprecedented and categorical new version of human ingenuity called capitalism. It is rather a continuation of a human metamorphosis brought into a new technological and socio-cultural context and followed by a number of more or less unintentional consequences. Malm ends up making a

naturalistic fallacy of replacing what today *is* descriptively a question of anthropogenic changes everywhere into what we *ought* to see normatively as the creation of an ideological strain of capitalism. It is legitimate to have normative standpoints on this issue, and some of them may bear some truth in them, but if they are expressed too categorically, it might be an obstruction to a notion that could potentially change our relationship with nonhuman nature. It *is* possible that the Anthropocene will be another amplifier to the modernist project of controlling the rest of nature, but it does not necessarily represent a new way of objectifying and naturalizing human beings. It might be a way of redistributing the multiplicities of agencies and create so-called inter-agentivities among beings in the world. Both trajectories are possible destinies of the Anthropocene in the future, so it might be crucial to use the term carefully.

In Sloterdijk's *You must change your life – On Anthropotechnics* (2013) he writes about the Moderns as if the history of this notion and the origin of the Anthropocene might correspond to his concept of The New Human Being in the 17th century, and he traces it even further back to ideals of human beings in medieval mysticism (Sloterdijk 2013: 318). This would lead at least the cultural and ideological origin of the Anthropocene even further back in history. Sloterdijk pays attention to the fact that westerners began to write “Man” in capital letters and Christians began to do experiments in order to resemble the God-man. We went from “ascetic experimentalism of the ancients” to “technical, artistic, then finally political experimentalism” in the Modern humans. In his view we used “updated Christian-humanist procedures, partly following the guidelines of post-Christian and post-humanist schemes of existence” (Sloterdijk 2013: 318). He even traces it back to the Black Death of 1348, and argues that the unrest of that time has never been calmed. Early capitalism grew in Northwestern European towns, the clockwork mechanism was invented and “the Faustian soul was taken as the metaphysical source of modern restlessness” (Sloterdijk 2013: 319). So maybe all of this can be traced back to the first clockwork? Is this just another sign out of many indications of the early Anthropocene? It is still hard to justify with hard evidence that we should choose any particular date, decade or even century. One of the main components of the changes we have seen in the Anthropocene is indeed human ingenuity in developing new and powerful technologies (McNeil 2000: 17). However, Descola reminds us that:

[i]t is not technical progress in itself that transforms the relations that humans maintain between themselves and the world but rather the sometimes tiny modifications made to those relations. It is these that render possible types of action previously considered unrealizable with respect to some particular category of existing beings, for every technique is primarily a mediated or immediate relation between an intentional agent and

inorganic or living material, which may include the agent himself. For a new technique to appear or to be adopted with some chance of success, it must certainly be seen to possess a real or imaginary use and also to be compatible with the other characteristics of the system in which it finds a place (Descola 2013: 386).

Descola seems to be arguing that *invention* and *adoption* is two sides of the same coin. The steam engine was intentionally born into a system that adopted it in need of capital accumulation, but it could never be foreseen that energy extraction of fossil fuels would be adopted to the degree we see today. It is basically a paradoxical issue. Even though technologies and systems of capital accumulation has lead to problematic circumstances today, it has also brought about many technologies and social organizations of great advantage to human beings. But it has obviously put extra pressure on both nonhuman and human beings at the same time. There is a need for new ways of organizing trade, energy production and transport (McNeill 2000). It is generally a complex issue that is best understood through a variety of perspectives. Latour's argument that we should focus on different modes of existence and knowledge production and be able to gather them all in one unifying perspective is important. Prior to this unifying perspective there is a need for specific inquiries in e.g. the history of capitalism, geology and climate change concerning either steam-engine technology, human trace fossils in the earth or CO₂ emissions. It might also be fruitful to understand the specific contents of the Anthropocene and its many manifestation around us in hermeneutic and phenomenological ways. This will be the purpose of Part III.

III

SENSING THE ANTHROPOCENE

This part reflects on empirical material assembled in the ethnographic video *Anthromes* (Carstensen 2013). *Anthromes* is supposed to be a tangible experience nourishing the viewer's sensibility and understanding of the Anthropocene. On a more formal level it is an experimental audiovisual recording in Human Ecology done in the tradition of aesthetic-sensory ethnography. It explores three specific areas of relevance to contemporary anthropogenic landscapes. In addition to *Anthromes* other affiliated audiovisual artifacts dealing with anthropogenic landscapes will be incorporated in the discussion.

Anthropogenic biomes

One particular theoretical field related to the Anthropocene is anthropogenic biomes or more broadly speaking anthropogenic landscapes. Anthropogenic biomes are defined as “mosaics – mixtures of settlements, agriculture, forests and other land uses and land covers” and “viewed globally, anthropogenic biomes clearly dominate the terrestrial biosphere, covering more than three quarters of Earth’s ice-free land” (Ellis and Ramankutty 2008: 440). Anthropogenic biomes are also called anthromes or human biomes and they come in different types such as cropland, rangeland, villages, settlements and urban biomes. They are thus essential and characteristic attributes of the biosphere today. Until recently, the study of biomes was basically a matter of studying nonhuman ecology in landscapes of little or almost no human interference. But human influence has increased in a way that makes any study of biomes without a focus on human features damaging to the outcome of the study (Ellis and Ramankutty 2008: 445). It is important to remember that “[a]nthromes, like biomes, are generalizations useful for understanding global patterns of ecosystem form and process” and “built on subjective tradeoffs between detail and simplicity and usually require a variety of practical compromises to make their mapping possible using available data” (Ellis et al. 2010: 600-601). In this inquiry anthromes form a conceptual framework that makes it easier to understand the physical-material properties of anthropogenic landscapes.

It is my argument that human perception of the complexity and content of these areas are not fully developed yet. This comes with an imperative to study human ecological and phenomenological implications of these landscapes in addition to what geologists and geographers are doing on a more physical-material level. Geologists, geographers and natural science ecologists are able to grasp this phenomenon in a way other fields of science cannot, and they have already gone far concerning anthropogenic landscapes, but some of them know that to understand it on a more profound level there is a need for a broader scientific approach including social, philosophical and political dimensions:

the transformation of the Earth’s surface environments by human activity [...] is now arguably the most important question of our age—scientifically, socially and politically. We cannot think of a greater or more urgent challenge (Zalasiewicz et al. 2011: 838).

In this inquiry the 'urgent challenge' is, as mentioned in the methodology chapter, taken up in a phenomenological, aesthetic and hermeneutic setting. One challenge we have already surpassed is

to understand the modernist gaze – and in this context the naturalist conception of landscapes – as the most dominant and influential of the 20th century. What we have to do next is to establish other ways of conceptualizing and experiencing anthropogenic landscapes. How is it possible to perceive these landscapes beyond the Great Divide between nature and culture? Could e.g. the art of moving images be part of this process? That is the main question of the following sections.

Landscape ecology

First of all we have to clarify what landscape means conceptually as it is a loaded term with a lot of meanings. Landscape became known in the English language in the 16th century as a technical term used by painters and it has been strongly associated with the art of painting ever since (Hirsch 1995: 2). The way we understand the notion is crucial to us in an era where human impact on especially the terrestrial biosphere is omnipotent. The notion itself has a strong anthropocentric connotation because of its history in landscape painting's predominantly human-centered perspective. Of the same reason landscapes are particularly interesting, because rarely have they been seen as completely untouched by human beings. There is always a painter behind a painting, himself emerging into a location. Landscape is a notion that always goes beyond the Great Divide between nature and culture even though the language we use about it remains dualistic. Anthropologist Erik Hirsch makes a distinction between 'foreground' as “the concrete reality of everyday social life ('the way we are now') and 'background' as “the perceived potentiality thrown into relief by our foregrounded existence ('the way we might be') (Hirsch 1995: 3). In his words these two perspectives should ideally be intertwined and used simultaneously because it makes us see the landscape as it appears in both its phenomenological *and* physical-material totality at the same time:

There is thus the landscape we initially see and a second landscape which is produced through local practice and which we come to recognize and understand through fieldwork and through ethnographic description and interpretation (Hirsch 1995: 2).

Descola coins a term for this coupled perspective on landscapes in the word *transfiguration* (Descola 2013b). This term is useful to explain another conceptual dilemma: I use the notion of anthropogenic biomes and anthropogenic landscapes interchangeably. Mainly because they, in the context of *Anthromes*, refer to the same phenomenon. But they do have different epistemological traditions behind them and today they should be coupled in the same way as 'foreground' and 'background' perspectives are united in the term transfiguration. But for now anthropogenic biomes

(or anthromes) primarily refer to physical-material properties of a given territory. And anthropogenic landscapes refer to human perception and aesthetic-sensory experiences in minor units of larger anthropogenic biomes.

Transfiguration can be achieved in two ways of so-called *artialisatio*n (Descola 2013b). Either *in situ*, meaning e.g. material interventions through gardens or Land Art, or *in visu*, through a collective glance on sensory-aesthetic elements of the landscape. In the process of transfiguration, and in the sensory-aesthetic practices it is possible to capture anthropogenic landscapes as something in themselves *and* part of a larger phenomenon we for the moment call the Anthropocene. *In visu* transfiguration processes are often based on still photography or paintings. In his lectures on landscape forms Descola's claims that we need other forms of mimetic representations of the world to understand all forms of landscape. I would argue that moving images and certain practices in cinema have media specific qualities that other mimetic representations lack in the representation of landscapes.

Coming back to the concept of design, Descola argue that we should also enlarge *in situ* transfigurations in order to include ecosystem creation forms that are different from canonical traditions in landscape ecology. In a recent series of lectures, Descola proposes a new and much broader anthropological understanding of landscape. It is based on the idea from Hirsch that landscapes are cultural processes (Hirsch 1995: 5, Descola 2013b). Standing on the shoulders of interdisciplinary phenomenologists and anthropologists interested in the notion of landscapes, his lectures develops into an anthropology of landscapes that goes beyond rigid definitions of landscape in the discipline of geography. Descola argues that we should try to free the notion of landscape from its ethnocentric sin without turning it into a vague subjective approach to space which will have no specific material expression (Descola 2013b). While being phenomenologically present in a particular spatial sphere of anthropogenic landscapes we need to strive for a way to see the world in new cosmological compositions. And in the Anthropocene, anthropogenic landscapes are supposed to be understood anthropologically. For this we need an anthropological theory of landscapes. The landscape ecology of Descola is a work in progress that his lectures are part of. His reflections, as well as the concept of anthropogenic biomes, are extremely important when one thinks about the Anthropocene. Coupled with perspectives from human ecology it should also be possible to be interested in humans as biological organisms without paying attention to any mental faculties (Steiner and Mauser 1993: 3). It is the ambition of this inquiry to investigate modes of existence and perspectives where we see the world as it *is*. Not with any concluding truth claim about reality but rather as one epistemological way of perceptually grasping the changes we have seen so far in the Anthropocene. This is not possible in any absolute terms, but there are perceptual and aesthetic

ways to get there. Methods, recording instruments and empirical practices that I introduced above serve the material data for the discussion in the following sections.

Audiovisual perception

Today cinema is a representational format with audiovisual properties that makes it very relevant in ethnographic description. It makes one capable of imitating the world in a phenomenological sphere that is extremely close to a real time experience of being in the world. It is of course a mode of doing mimesis that is only imitating a restricted material in time and space and never capable of representing a total 1:1 experience. But encapsulating a slice of real time experience in this format is perceptually enlightening if it is done in a proper way. In the context of anthropogenic landscapes and the Anthropocene it is highly relevant when cinema deals with a perceptual imagination of our own existence on Earth. One way of perceiving signs of the Anthropocene is through our eyes. Either in person or in visual representations of the world. Another is through our ears, either in person or in recordings from the field. Recording audio and visual material is a more than a century old practice. It is a very young art form that changed radically throughout the years in thousands of different experiments. *Anthromes* is an audiovisual recording of anthropogenic landscapes where certain media specific and ethnographic strategies have been employed in a way that eventually strives towards making the characteristics of the Anthropocene more perceivable to the viewer. It is done in the empirical tradition of phenomenology that I presented earlier through the work of Merleau-Ponty and to later forms of aesthetic-sensorial methodologies more specific to the medium of cinema.

Landscape painting has been argued to foster a certain kind of looking in human cognition and by that influencing how humans perceive their nonhuman environment (Hirsch 1995: 7). What we learned from Hirsch was that this gaze lacks a comprehension of the processual *background* dimension of landscapes; landscapes as continuously altered terrestrial spheres. It might be argued that moving images of anthropogenic landscapes could help us change our perception of them through its intrinsic animating properties. It is a medium where it is possible to reach a level of sensory-aesthetic immersion as a viewer incomparable to other representational media.

Cinema is a native child of the Anthropocene. The early experiments and development of the cinematograph were contemporary to crucial inventions in technologies of transport, energy production and land use. It all came in the wake of the well-known Industrial Revolution in the 19th and 20th century. Technologies of trains, coal and land use are essential topics in each of the audiovisual portraits in *Anthromes*. I have made fieldwork in three examples of anthropogenic

landscapes containing essential features of the Anthropocene. Every site is portrayed in the same way. I placed the camera in a fixed framing position and recorded synchronized sound with a sound recorder simultaneously. Each portrait comes with a series of questions and specific subjects to discuss related to a particular issue and the theory I have discussed above. *Anthromes* is *not* a conventional piece of biological fieldwork or intended to giving any meaningful account of physical-material ecological processes in the different biomes, but it does give a short contextual introduction to the most basic features of each particular place in terms of historical developments and relevance to the Anthropocene hypothesis. The main intention of *Anthromes* as inquiry is questions concerning phenomenology and ethnography. It is three portraits that strive to depict a certain landscape in a certain time frame that will serve as thick description of the main theme: anthropogenic landscapes. *Anthromes* tries to emulate different cinematic practices of representing the world and eventually they should create an epistemological room for existential reflection of the relationship between humans and the rest of nature.

Coal heap

Coal provides 40 percent of the world's electricity need. Throughout the 20th century it has been one of the strongest fossil fuels and in the 21st century it is the fastest growing global energy resource. It has never stopped increasing and it does not look like it will in the nearest future.¹ One of the main features of the Anthropocene is human degradation of geological landscapes through different ways of extracting raw materials (Zalasiewicz 2009: 80). From a geologist's point of view there is a paradox, because many of these extractions made it possible for us to look closer at details in geological history (Sand Jensen 2006: 496), but all the extractions are, geologically speaking, irreversible processes. Once we make them it is impossible to restore them in resemblance with what was there before. Inner structures in the landscape cannot be reconstructed. That makes changes in geological layers more fatal because it is not possible to recreate landscapes in the same way it is possible with features of the biosphere (ibid.). Spoil tips are emblematic features of the Anthropocene. They are present in most of our built environment. Accumulated spoil and waste material from mining or other large scale landscape interventions are visible traces of industrialization and luxurious life-style among human beings.

In the coal heap portrait of *Anthromes* there is a lot of mid-summer vegetation in front of the heap. In the top left corner of the frame there are three electric transmission lines going through the air. There are also notable sounds from an airplane, grasshoppers, birds, flies and an almost atmospheric sound of branches in the wind. All these details add to experience of being there that is

difficult to grasp in still pictures and furthermore it has the benefit of perceiving it in moving images as mentioned above. Branches in the wind is one of the strongest cinematic tropes in film history (Keathley 2005). Ever since the Lumière Brothers made their first films of the wind going through the branches of trees it has been an obsession in film history. The first screenings gave rise to an excited audience who could not believe the realness of the pictures when they saw the branches moving on the screen. When they saw the first train moving into a train station they jumped aside scared of being run down by the train (ibid.). The on-screen movements are few in the first portrait of *Anthromes*. The attraction of the portrait is primarily one of auditive resonance and of course the visual appeal in the coal heap is significant as well, but it is the full experience of all the beings inside, above and around the frame that makes it a proper ethnographic description of the place.



The coal heap location was chosen among a lot of sites in and around the former heavily industrialized city Wałbrzych in Lower Silesia in southwest Poland. Historically Silesia played a major role in european coal mining in the 20th century on a level almost equal to the Ruhr district in Germany. It was also one of several communist districts contributing on a massive scale to the global CO₂ emissions in the 20th century (McNeill 2000: 89). Silesia has been one of the most

densely industrialized regions of Europe and it was in Gleiwitz between Wałbrzych, Wrocław (old Breslau) and Katowice that the first coke-fired blast furnace on the European continent was taken in use in 1796 led by the Scottish pioneer John Baildon. It was the beginning of a massive industrialization of Silesia (ibid.).

There is not much industry left in Wałbrzych today and its postindustrial features are primarily found in anthropogenic landscapes in the periphery of the community. In the outskirts of the city there are numerous postindustrial attributes in the form of especially hilly landscapes of coal heaps, often with revegetated surfaces. In some of them, trucks are still coming to gather slug material for road building enterprises etcetera. The coal heap portrait is located close to the old train station where one of the first railways in Poland was connected to Wrocław (old Breslau). Nearby I met a couple of truck drivers, one of them a Spanish emigrant, who told me about the low wages and the declining industry in the area. On the other side of the hill local people were using the area for leisure time and recreation. Children were playing in small water streams in front of the coal heap while the family were having a picnic in the shadows. This adds to the experience of being in that place, but is not regarded as important in the images themselves and what they might convey phenomenologically to the viewer.

Perceiving the images of the coal heaps does indeed make it easier to comprehend, “that the opposition between nature and culture is not universal as it is claimed to be” (Descola 2013: xvii). In general, when looking at this particular landscape in the context of Descola's theoretical framework presented in Part I, the images produce some interesting questions, even though they at first sight might seem to portray a quite common heap of earth with a dull and unspectacular appearance. Even without any theoretical pondering, the duration of the shot makes one wonder about the material condition of the landscape. This landscape contains a profound material history of human actions and various consequences including social-political questions of hard labour for decades, environmental degradation of the local surroundings and issues of waste material from excavations of coal. The latter issue caused massive emissions of CO₂ throughout the industrial period (McNeill 2000: 91). But the images of this particular landscape are also alive in the sense that they show us a deeply anthropogenic landscape transfigured into a habitat of growing vegetation and other relatively harmonious life forms. It is a paradoxical feeling one encounters when perceiving these images. It contains historical and political disenchantment in many ways, but if perceived phenomenologically it might form a landscape ecology that could lead to a form of reenchantment. Looking and listening in a two minute long meditation through moving images it becomes conceptually as well as phenomenologically easier to perceive what anthropogenic landscapes exhibit today and what coal and especially coal mining means in the Anthropocene.

In the coal heap portrait the high-pitched sound from grasshoppers is dominant. It is as in many other situations not possible to see any insects, but in audiovisual artifacts off-screen sound is often capable of adding an extra phenomenological frequency to what is actually visible to the viewer. The sound of flying airplanes above the depicted landscape is another off-screen detail in the first part of *Anthromes*. The portrait's simplicity, duration and moderate aesthetic attraction makes one pay attention to small details on the screen. Off-screen sounds point towards a larger framework of actors in the landscape and airplanes are often neglected features one tends not to notice in the perception of contemporary landscapes. It would be difficult to do an audiovisual representation of human-altered landscapes today without airplanes being present in the soundtrack. After 1950 air travel was part of The Great Acceleration and it increased in a way that makes it almost impossible to avoid the sound of airplanes no matter how secluded and remote we perceive the world (Steffen et al. 2007: 617). The capacity to represent the distant sound of airplanes in a landscape and stage it phenomenologically in a subtle and non-spectacular way is specifically potent in the medium of cinema. Field recordings focusing merely on representing sound environments could have other interesting media-specific effects too, but through an audiovisual portrait like the one in *Anthromes* off-screen airplanes are able to remind us of how we perceive airplanes in the Anthropocene: repeatedly above our heads and often out of sight.¹⁷

A few kilometers from the portrayed location in *Anthromes* one of the largest coal mining sites in the region Thorez undergoes restoration after it was shut down in 1993. It will be turned into a museum and a cultural hub for creative purposes within a few years showcasing its industrial grandiosity to tourists and local citizens. Postindustrial landscapes have been subject to academic as well as artistic trends of urban exploration often combined with a desire in so-called ruin porn. Ruin porn is a way of fetishizing signs of postindustrial decay and turning it into aesthetic objects of visual beauty. The most common phenomenon in this regard is the many portraits done in Detroit, US (Millington 2013). Portraying rusty industrial architecture in a fixed framing position could easily reduce the phenomenological experience of being in such a place to ruin porn. In *Anthromes* I chose a more consistent and modest way of framing and filming. And I did not choose the actual architecture of industrial production. Portraying the actual architecture would demand certain appropriate ways of treating the material. Capturing such a place in a fixed framing as I did with the coal heap it could easily fall under the reductionist experience of aestheticized awe in the vein of the romantic sublime. The chinese auteur Wang Bing (1967-) employed appropriate ethnographic and cinematic methods in his magnum opus *Tie Xi Qu* (Bing 2003) to avoid any accusations of merely exploiting the aesthetic attraction of industry in decay.

¹⁷ Field recording as ethnography offers an interesting next step in aesthetic-sensory approaches to the Anthropocene.



(Bing 2003)

In his cinematography there are no traces of sentimentality. The DV-camera he uses is a low-quality edition of digital video technology available today, and the camera is in almost constant motion. Either Bing is walking or running with the camera, often behind the protagonist of the film, or he is sitting on trains or in industrial machinery inside the old factories. In the image above he is shooting the images from above in a moving and noisy machinery that transports lead material to be melted. It runs through most of the main hall in the lead smelting factory after a few workers tried to fix it to run more smoothly. *Tie Xi Qu* is particularly interesting because Bing depicts an industrial area similar to the one in Wałbrzych. They both have communist origin and administration. The Tiexi District is located in the capital Shenyang of the northeastern province Liaoning in China. Bing's nine hour epic is a radical audiovisual document of the slow decline in industrial production, massive shut downs of factories and reckless removal of shantytowns in the years around the millennium. It is shot with a persistently handheld cinematography, which insistently follows the actors in the industrial landscape. For his purposes, Bing rented a digital camera and frequently lived at his locations for longer periods of time while roaming around in the slowly decaying industrial environment. His use of the medium is not observational as it is in *Anthromes*. Bing

instead shows another way of utilizing a camera for phenomenological and ethnographic purposes. His ethnography is based on an almost constant mobile interaction in the material and especially in the human graphics of the place. It is a strategy of engaging oneself in a particular spatial sphere in almost constant movement and reaction to what is happening around the camera. It is a portrait that does not meditate on the industrial sublime, earlier designated as ruin porn, in a sentimental and reductionist way. Bing is following the network of human as well as nonhuman actors systematically in a quest for the most adequate and illuminating portrait of Tiexi as phenomenon. His method allows him to portray a fundamental phenomenology of disenchantment. This was not the intention of the coal heap in *Anthromes* even though there is clear evidences of disenchantment in those pictures as well. The coal heap location illuminates a paradoxical reality in particular versions of anthropogenic landscapes. Through these images we get an idea of the embodiment of coal mining in the 20th century under communist rule, which serves as an account of the massive influence this political movement had on CO₂ emissions, but it also urges us to reestablish a cautious relationship to it and see those landscapes in the light of what Latour defined above as a matter of concern. It might even have a metaphorical function as reminders of the industrialization in the West and our need to form an inner immunity in the changing nature of the planet:

Foams, heaps, sponges, clouds and vortexes serve as the first amorphological metaphors, and will help to investigate the formation of inner worlds, the creation of contexts and the architectures of immunity in the age of unfettered technical complexity (Sloterdijk 2011: 71).

The coal heap portrait in *Anthromes* as well as the cinematography in Bing's *Tie Xi Qu* give us two examples of how we, in sensory-aesthetic ways, are able to grasp certain features of the Anthropocene. The term anthropogenic biomes consists of many different contemporary landscapes. And coal heaps and industrial infrastructure behind the production of these spoil tips are just two features that we should try to understand the implications of today and in the future.

Remeandered river

In the beginning and throughout the 20th century human alteration of freshwater biomes and especially streams and rivers in Denmark made them less habitable to animals and plants for several reasons. What was officially called water stream maintenance actually meant a series of radical interventions in the landscape of relatively well-conditioned freshwater biomes. These interventions

were often made for the conveyance of agricultural produce and changed the physical character of many streams and rivers. Straightening and deepening streams into manageable channels with less vegetation and animal life made it much easier to expand in agricultural land production (Sand Jensen et al. 2013: 231). Since these and other issues culminated as obvious problems in the 1970s, different projects have been carried out to change many of the negative and unintended consequences. In addition to better treatment of wastewater in water treatment plants, a couple of interesting initiatives have been made. One of them is a nationally governed initiative of remeandering straightened rivers in order “to increase the diversity, density, and/or biomass of aquatic organisms through enhanced hydraulic and substrate heterogeneity and increased food availability” (Miller et al. 2010: 8). There has been over 6000 in-stream habitat enhancements internationally with a cost of over 6 billion dollars. In Denmark as well as internationally most of them have been quite successful (Kronvang et al. 1998, Miller et al. 2010). At the same time there are considerable reasons to create intelligent study designs, because unintentional effects are almost sure to happen. In a meta-analysis of river restorations the authors argued it was

(...) given that macroinvertebrate metrics can exhibit considerable variability at small spatial scales for reasons unrelated to restoration actions, their use to assess restoration effectiveness needs to be done with caution and rigorous study designs (Miller et al. 2010: 16-17).

Because the unintentional effects happened for 'reasons unrelated to restoration actions' their inclusion – even if they are positive - in the assessment of 'restoration effectiveness' might seem dubious to the authors behind the cited review. Designing carefully is important, but what is just as important is leaving designs latently open to positive unintentional effects. Also in the following assessment reports.

Anthropogenic freshwater habitats in the remeandered rivers of Denmark are illuminating examples of an initially human-designed natural phenomena that progressively is – consciously or not by the architects – turning into something unintentional because we as human agents cannot foresee the interference of nonhuman agents in the process. Rewilding strategies as well as so-called unintentional designs have been discussed a lot lately. Anthropologist Anna Tsing have started to speculate on what she frame as “more-than-human socialities in which we participate, but in which we do make the rules” (Tsing 2013: 33). This is indeed a necessity on several levels of the inquiries to come. As we understood in the section on Latour, we should actually learn to care for – and in the spirit of Tsing – plan for unintentional effects of anthropogenic landscapes if, of course,

they bring some kind of enhancements in e.g. biodiversity. Even the most mundane, unspectacular and unexpected effect of river restorations should be considered valuable and desirable even though it could be a phenomenon never thought of in the initial design.

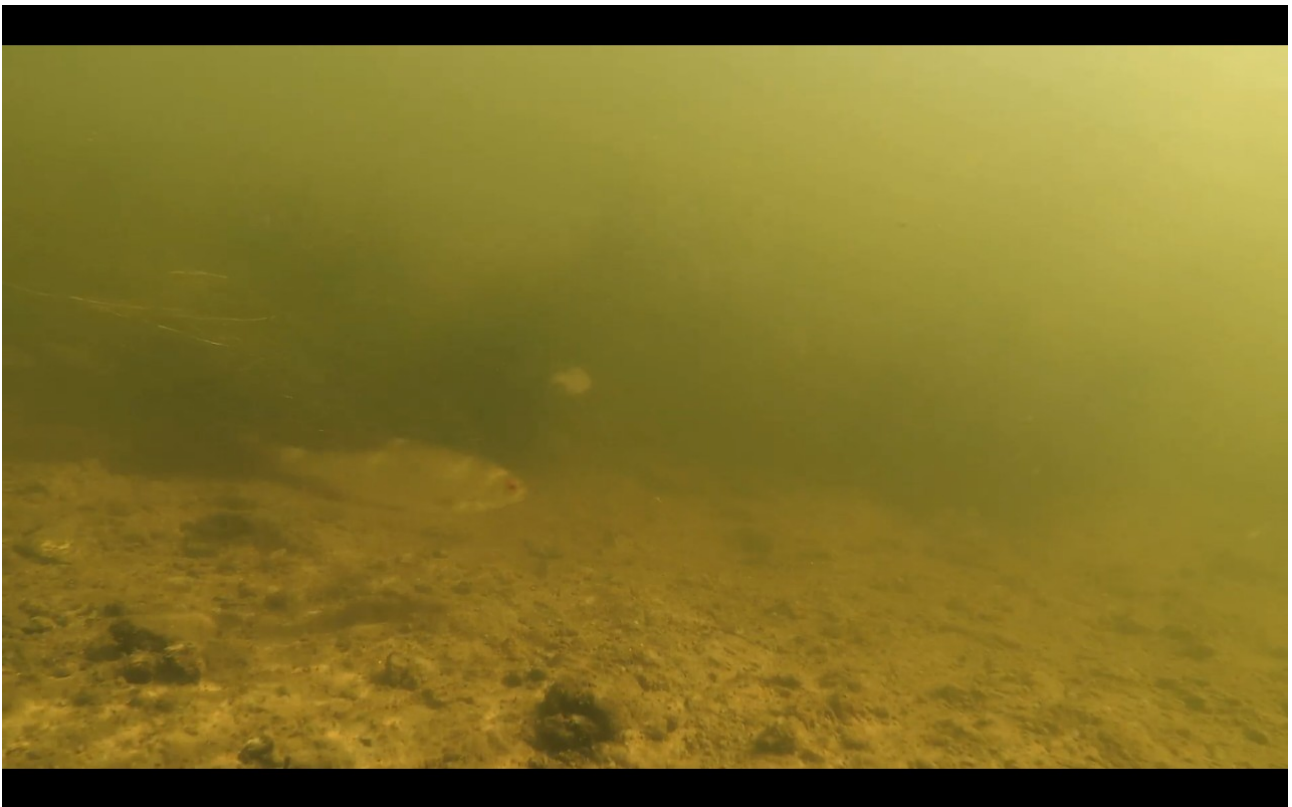


Map of the Suså River Valley Project: portrayed meander in *Anthromes* is the red line next to Gydemade Meadow (accessed January 2, 2014, <http://www.naturstyrelsen.dk>)

The particular meander in Suså I wanted to visit was located in a place with only a few houses nearby and a couple of larger industrial animal farms. Suså is one out of many remeandered rivers in Denmark and one of the latest projects. It is located in Sea Land with origin in Tingerup Tykke and outlet in Karrebæksminde Bugt. The process of remeandering a river is as mentioned above done with a lot of routine from earlier projects. Several accounts of the historical disputes about straightening and remeandering rivers describes the way Denmark has gone through a massive regional and governmental plan in water management of rivers and lakes (Hansen 2008).

The straightened stretches of Suså was taken back to their old meanders one year before the portrait was shot. I did visit several other remeandered rivers in Denmark, but I chose Suså because it was still so obviously anthropogenic and monstrous in its raw, human-altered condition. As seen in the images of *Anthromes* it is biological life in its most primitive manifestation. The ground is still full of hard and solid clay with only few signs of vegetation. Fish in the juvenile stage are swimming around and algae is waving slowly as reaction to the movement of streaming water. And the sun's reflections through the water makes it all more or less visible even though the camera

technology and organic material in the water make a few restrictions to that. This portrait of a relatively slow emergence of life in the remeandered river based upon human agency and design is phenomenologically and aesthetically interesting on different levels. It is a prime example of an anthropogenic biome being re-designed in that careful, cautious and detailed way Latour was asking for in Part I. And phenomenologically the viewer experiences an intentionally constructed anthropogenic environment being left alone to develop into what the scientists behind the project hope to be a lively meander in the river again. Designed in detail it is left to its own development with more or less unforeseeable consequences. A complete mastery of this process is obviously not possible and experiencing the initial process of life materializing itself as human-designed but also progressing without total control makes one rethink questions of nature-culture dichotomies. Any notion of a division between nature and culture dissolves into something much more complex and mutually entangled.

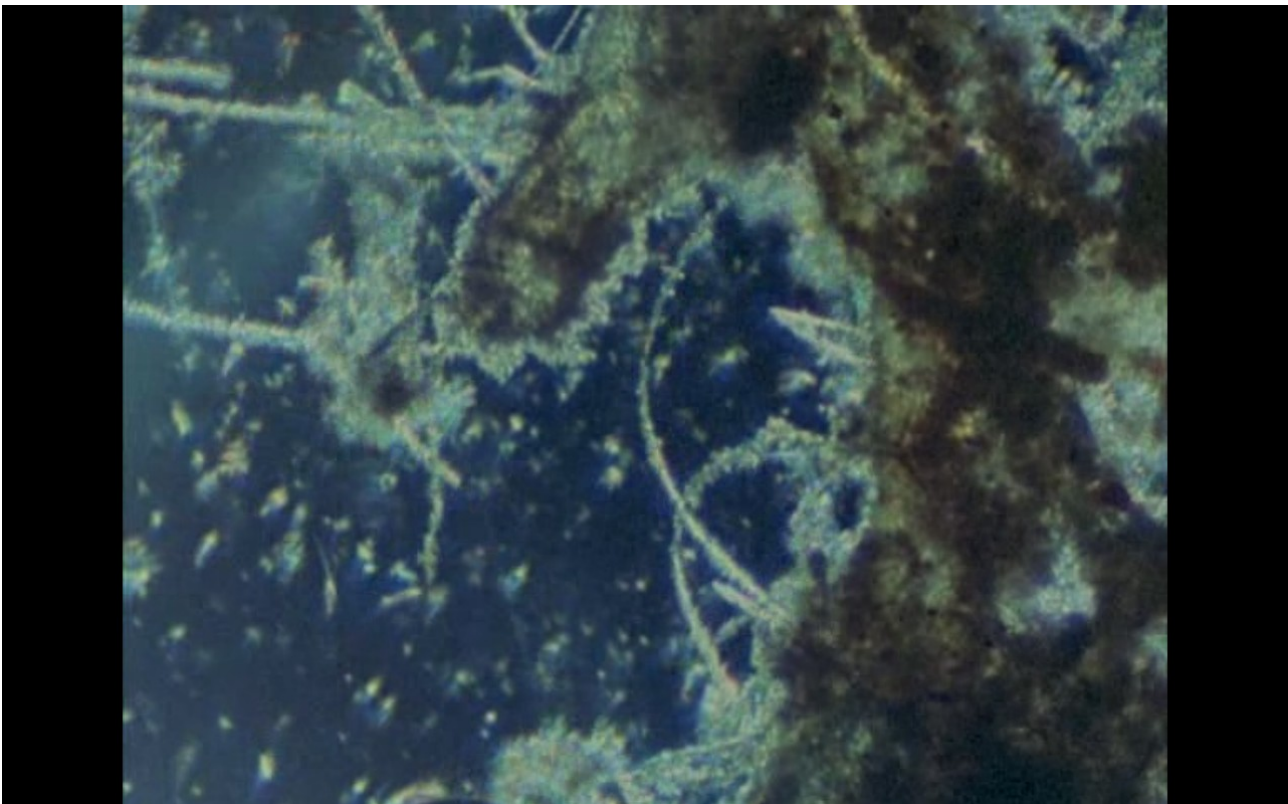


(Carstensen 2013)

Introducing Sloterdijk's idea of 'ecstatic immanence' into a more hermeneutic reflection of the images might even change one's perception of something so artificially made as remeandered rivers. Anthropogenic nature in this particular portrait is not indicating 'environmental pollution', but does actually imitate something which could emulate a reenchantment of anthropogenic landscapes. In

Anthromes an experience of ecstatic immanence occurs in a sensorial devotion to the moving images and the viewer might potentially perceive the most primitive anthropogenic life forms inside the logic of 'being-in-the-shared-spaces'.

The medium of cinema has been used in similar didactic ways earlier in the 20th century when french filmmaker and educationist Jean Painlevé (1902-1989) did a series of portraits of underwater phenomena. In his film *Diatoms* (1968) he uses his most typical method of visual representation through a microscopic format. Simultaneously he uses a quite dramatic non-diagetic soundtrack and a voice-over with more or less scientific comments on the movements and elements projected on the screen. It is far from the cinematography of Bing, but it has its own specific style and narration that suits the represented material. *Diatoms* is not a work that deals explicitly with anthropogenic life forms even though almost any underwater habitat on Earth is indirectly influenced by human beings (McNeill 2000: 118-148). On the other hand it could be said that like technology “works of art are always anthropomorphic or, better, anthropogenic” (Latour 2013: 247).



(Painlevé 1968)

In *Diatoms* the represented material is underwater algae seen through technologies of cinema and the microscope in a scientific and phenomenological context. Painlevé himself argued that,

The real justification for scientific cinematography is to be found on the screen” and that “it

is movements on screen which spark off “productive observations”. It is clear, however, that apart from studies which rely on the great sensitivity of cinematic film, it is the relative nature of movement which lies at the core of scientific research through cinema (Painlevé 1935: 268).

This movement is essential to the relevance of using audiovisual media in representations of anthropogenic life in the Anthropocene. By observing algae in *Anthromes* as well as in *Diatoms* one perceives the biology of unicellular life forms in underwater habitats in an intimate and sensorially intimidating way. It is extremely realistic and mind-boggling to observe a habitat one rarely gets to experience first hand. What *Anthromes* inherits from Painlevé is his pragmatic-didactic method of representing phenomena in their most animated and exhilarating aesthetic-sensorial manifestation. Painlevé used this approach to enlighten the viewers with experiences of phenomena that could be difficult to reach an understanding of elsewhere. In this approach one should be aware of not falling into “temptations in vitalism to *spiritualize* the vital agent” in unnecessary and reductionist ways (Bennett 2010: 81). But *Anthromes* is neither a work of ideological vitalism and least of all mechanism. It is a direct and secular representation of anthropogenic life forms, but also an artifact with a purpose of creating an epistemological realm that could stimulate the viewer into an atmosphere of Sloterdijk's ecstatic immanence.

At the same time it is important to understand that the medium of cinema is in an early stage of development. Painlevé would even claim that we have to be aware of the misrepresentative risks of using it in a scientific context.

Since the research film is the educational film of tomorrow, we must wrap it up in warnings and bear in mind that, from the point of view of evidence, although it is an improvement over our ever-fallible senses, like everything that is human it may be misrepresentative, and more than ever, since it is the latest addition and is still little-understood despite our best efforts, it requires a critical mind alert to the circumstances under which the shot was taken. Considered to be a microscope for time, film has not reached the extreme limit to which the composition of light itself condemns the microscope in its current form. Since its invention, we had found nothing of similarly general application to parallel film as a means of progression for the sciences. In conjunction with other instruments which allow humans to push the boundaries further and further back towards the origins of mysteries and particularly in conjunction with everything which derives from photoelectric cells, it will probably bring about a radical transformation of our understanding of natural

phenomena (Painlevé 1935: 268).

The exploratory nature of *Anthromes* is trying to be part of this agenda and as we understood in Part I and II the Anthropocene does potentially 'bring about a radical transformation of our understanding of natural phenomena'. One way of getting there is in the methodological and epistemological intersection between aesthetics and the natural sciences. One Castaing-Taylor, Painlevé and many others have done inquiries in. Latour describes this crossing as a

a very fertile one, for it is from the collaboration between these two worlds that we get a major part of our idea of the “WORLD” and its beauty. There is no other world “beyond”, no other world “beneath”, except the double dispatch from fiction and reference (Latour 2013: 250).

Aesthetic-hermeneutic inquiries makes it easier to understand the narrative of the Anthropocene. Because, as Latour points out, “no chain of reference can be established without a *narrative* populated by being” (ibid.). In the perceptual realm of phenomenology one makes it possible to grasp the sensuous experience of being in the Anthropocene through the images. In the case of *Suså* I have even argued that there are media-specific advantages to the medium of audiovisual recordings that makes one capable of perceiving its anthropogenic features in profound ways. These are just preliminary examples of how to approach the Anthropocene beyond scientific conceptualizations of the term.

Novel ecosystem

A novel ecosystem is defined as a terrestrial ecosystem of unused land embedded in used lands. The 20th century stands out as an exceptional period of dynamic anthropogenic changes in the terrestrial biosphere that made the planet go from a primarily wild to a semi-natural state and now it is primarily dominated by used lands (Ellis et al. 2010: 593). This makes novel ecosystems a very common phenomenon around us, but we tend to ignore them and find them boring or useless. Especially transition zones between infrastructure around transportation systems and other mundane examples of landscape architecture are often ignored as non-spectacular novel ecosystems we never pay attention to in our daily lives.

I found a typical one in the backyard of where I live. On the day of shooting the images in

the portrait contained large amounts of dry vegetation after a long summer. In the background one sees the 128 meter chimney of a steam based peak and back-up unit for district heating. There are children playing football in a field with light masts giving the possibility of artificial lighting. On the other side of the rail tracks there are building for housing as well as warehouses. Magpies fly around in the images. There are off-screen sounds from cars and people passing by having conversations in Arabic and Danish. A man snorts, another laughs and magpies are screaming while flying out of the dry grass across the rail tracks. Suddenly the characteristic sound of electric trains comes into the soundtrack and the train enters the frame from left while giving a quick squeal from the brakes before it leaves the frame in the last seconds. After cutting to black screen with the three locations written on the screen, Wałbrzych, Suså and Copenhagen, the sound from a truck driving away and a few scraping steps nearby stay in the soundtrack for a few seconds.



(Carstensen 2013)

In a fixed framing position, where one gets the appropriate time to look at and listen to the audiovisual recording, the moving images of trains makes one perceive the common historical heritage in the technologies of both phenomena in an ontological way. In an almost animistic way the camera and the train, or the spectator and the moving images, produce knowledge that link them together. The signified (the train) and the signifier (the camera) constitute each other's existence. It is a common trope which is deeply entangled in the history of cinema ever since the Lumière Brothers portrayed a steam-powered passenger train entering a station in one of the first projections

of moving images in *Arrival of a Train at La Ciotat* (Lumière 1898). Blocks of black railcars following each other in a spatially and temporally restricted framework is in a certain structural way reminiscent of how celluloid film strips look like on a basic material level.



(August and Louis Lumière 1895)

In all the excitement of new technology works of early cinema were following the development at close hand with an almost scientific ethos. Soviet montage theory in the 1920s was deeply engaged in portraits of railroads as spectacular manifestations of enchantment. Later portraits of railroad infrastructure display a much more ambivalent relationship to the material. The American auteur James Benning (1956 -) has done this with great effect in several of his films. As in *Anthromes* he portrays landscapes with a varying degree of human fingerprints and control. Benning's portrait of US railroads *RR* (2007) was his last film shot on 16 mm film. 16 mm cameras were historically the most common technology among ethnographic filmmakers and *RR* stands as a nostalgic elegy of a medium with deep roots in the Industrial Revolution. In *RR* Benning shot up to 50 trains running through the American landscape. Today images of trains passing through the landscape captured on 16 mm technology embodies a characteristic representation of disenchantment on several levels. Similar to gigantic container ships, long freight trains are one of the last tangible proofs of industrial capitalism in the post-industrial landscapes of the West. In the process of observing railroads like these, one perceives the weight of the freight trains carrying massive amounts of extracted raw materials from distant places that might seem unbelievable to the viewer. In the last shot of *RR* one

sees a slowly operating freight train running through the landscape of a windmill park in front of a huge mountain. In the foreground, desert bushes and rubber tires are present. The shot runs for about 4 minutes and at one point it seems like the train is so heavily loaded that it cannot move anymore. *RR* ends with a framing of double-stack sections of the train stuck in front of running windmills. A subtle framed analogy of the struggle in late capitalism to convert to renewable energy.



(Benning 2008)

In *Anthromes* the images of a novel ecosystem in the middle of Copenhagen makes one almost baffled and perplex if perceived in the dialectical framework of disenchantment and reenchancement. The disenchantment narrative so strongly associated with anthropogenic nature makes it almost impossible to see things clearly. Similar to Latour's imperative to love our monsters, especially those more or less degraded novel ecosystems all around us, there are voices among conservationists, ecologists and landscape architects claiming that in the Anthropocene we should “rebrand lands currently described by ecologists as ‘degraded’ or, less formally, as ‘trash’ so that some such lands can come to be valued” (Marris 2013: 346). Before we actually design in detail how to intervene (or not intervene) in these areas, it might be good to look at them in more rigorous ways. There are so many places around us that we have ignored for centuries because they were signs of degradation and human exploitation. If we perceive them as anthropogenic 'rambunctious gardens' that we aim to care for and appreciate without prejudices coming from the mirage of

pristine wilderness, we might be prepared to change the negative connotations related to the word anthropogenic (Marris 2011). In framing the most common novel ecosystems of e.g. urban infrastructure in audiovisual recordings one might perceive them as slightly valuable and eventually rethink their presence among us. This is just a starting point in the process of approaching anthropogenic biomes around us as immanent features of the Anthropocene. Looking at them beyond the prism of the Great Divide and studying them closely and descriptively as part of an anthropology of the Moderns we might have better chances of succeeding in future planning of co-species landscapes.

ENDNOTES

What has gone is mastery — this odd idea of mastery that refused to include the mystery of unintended consequences¹⁸

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All artifacts, methodologies and theories utilized in this thesis are either completely dismissing, or at least trying to contest and undermine, fundamental parts of modern naturalism as it has been practiced by the Moderns in the last couple of centuries. An essential argument is that certain pieces of cinema already contain reminiscences of a necessity to go beyond representations of the Earth as divided into delineations of nature and culture. Each artifact is in its own media specific way able to give us a preliminary understanding of what is happening with the planet and thus it is strategically able to strengthen our sensibility towards the Anthropocene as a phenomenon. I have chosen the audiovisual format to show epistemological advantages of that specific medium and I argue that some of its advantages lie in the historical-material history of its construction indebted to the Industrial Revolution as well as in the sensory-aesthetic qualities of audiovisual mimesis.

Secondly, my aim was to describe how we until now have been working within a dialectic relationship between disenchantment and rechantment towards anthropogenic nature, but I have argued that in the epistemological framework of the Anthropocene some of these narratives could be changed for good. After all, the most dominant story of modernity has been one of disenchantment. It mainly derives from Max Weber's aim to prove that in modernity, where all things can be measured and demystified with careful scientific methods, we intentionally face a disenchantment of the Earth (Weber 1958: 31). That is still the most dominant narrative about so-called modernity and anthropogenic nature, but recently several scholars in different disciplines have been arguing that a counter-narrative of rechantment developed all along the strong

¹⁸ Latour (2011b)

narrative of disenchantment (Bennett 2000, Landy and Saler 2009). On top of this some would even say that we need to focus more on new methodological ways of conceptualizing reenchantment in e.g. conservation policies by re-greening, re-engineering and re-design the way nature should develop on this planet (Marris 2011, 2013, Latour 2011a, 2011b). Thoughts on how to imagine what non-polluting or maybe even what less anthropogenic nature would do to this planet, or how we as powerful engineers would like to design it, seems to be crucial on a progressively more and more human-driven planet.

This renewed focus on a secular counter-narrative to the disenchantment tale might not be so accidental. We could very well have reached a new point of, or at least a new understanding of, what Weber and other people before him saw as a quest for world mastery through intellectualization and rationalization (Schluchter 1981). The expansion of more and more anthropogenic life on Earth has reached a level where scientists argue that anthropogenic nature is all we have left on this planet (Steffen et al. 2011a). While some political and cultural movements still engage themselves in more and more radicalized versions of the disenchanted narrative in relation to anthropogenic nature, the reenchantment narrative seems to have gained public attention recently in the context of anthropogenic nature. It is confusing. Are we enchanted or disenchanted by the changes we have met in the last couple of centuries? And does it make sense to follow any of these narratives wholeheartedly?

I would argue that it does not. It often becomes too deterministic and rigid to follow just one of them, but at the same time it is important to insist on well-prepared re-designs of e.g. anthropogenic landscapes. The ambition of this inquiry was to explore the possibilities in studying the potential of cinema and its aesthetic-sensory qualities in the context of perceiving anthropogenic landscapes. This inquiry was generally satisfactory. Behind all of the audiovisual recordings in this inquiry there is an urge to perceive the physical world as it *is* with an almost scientific ethos. And in different ways all of the recordings try to capture how anthropogenic biomes look like in a time of increasing human influence on the Earth's spheres.

It is often said that we cannot understand or comprehend ourselves as a species. We are not able to fully comprehend the consequences of the way we live as a human collective on Planet Earth, but how do we stubbornly strive to do this? Ethnographic film could be seen as archeological evidence, as some kind of fossilized image of a living planet. The argument is that moving images of anthropogenic biomes, framed and recorded in a proper way, are capable of making us perceptually sensitive to the human fingerprint on Planet Earth in a new epistemological way. It stimulates our perception and potentially leap our existence into a more immanent relation to the spheres we live in. The Anthropocene could easily be drawn into a naturalistic discourse of human

control over nature also known as business-as-usual. On the other hand, and that is the perspective drawn upon in this thesis, it could turn into a conceptualization of our spatial and temporal relationship to the Earth as a species that could once and for all dissolve the Great Divide between Humans and Nature.

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