# Is Nature About to (Be) End(ed)? Conceptions of the Environment and Moral Responsibility in the Anthropocene

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ABSTRACT: This essay reads two policy documents, *Our Common Future* (1987) and the *United Nations Framework Convention on Climate Change* (1992/94), and one non-fiction text, Bill McKibben's *The End of Nature* (1989), against the backdrop of moral responsibility. Bringing these texts into conversation by interpreting them as threshold texts of Anthropocene thinking, this essay attempts to map the cultural-political climate of the late 1980s and early 1990s with regard to changing conceptualizations of the environment. I argue that McKibben's *The End of Nature*, despite various shortcomings as to capturing implications of culpability and responsibility in the Anthropocene, contributes a crucial component to the changes needed for developing a sense of moral responsibility at the time of its publication.

KEYWORDS: Anthropocene; moral responsibility; ethics; environment; Bill McKibben; *The End of Nature*; US-American literary environmentalism; *Our Common Future*; *UNFCCC*

## Introduction

The year 1989 has gone down in history as one of alleged endings. It was the year that heralded the end of the Cold War which, according to Francis Fukuyama, coincided both with the end of history as the Western world had known it and with "the universalization of Western liberal democracy as the final form of human government […] in the realm of ideas or consciousness" (1). In the same year, Bill McKibben spectacularly announced that humanity is now living in a post-natural world, one in which "we have killed [nature] off" (*The End of Nature* 88). McKibben's *The End of Nature* has been both hailed as a cornerstone of US-American literary environmentalism[1] and sharply criticized, mostly for its loyalty to the contested notion of wilderness and for its conceptual inconsistencies (see, for instance, Clark, "Nature, Post Nature" 79; Vogel 4-8; Heise, *Imagining Extinction* 9-10). As a year of radical change, 1989 is as much about alleged endings as it arguably marks a period of beginnings. Two years prior, the United Nations World Commission on Environment and Development (WCED), under the direction of the Norwegian Prime Minister Gro Harlem Brundtland, was commissioned to critically (re-)consider the reciprocity between development and the environment. The result, *Our Common Future*, was to become a

[1] I borrow the designation 'US-American literary environmentalism' from David Mazel, arguing in line with his definition of literary environmentalism as "the *textual manifestation* of a larger *cultural practice* […]—a formation within which the environment has been *invented* and *naturalized*" (21-22; emphasis added).

milestone in the conceptualization of sustainable development and its political realization as it held the consumption habits of the global North responsible for much of the environmental degradation and poverty in the global South. Three years after 1989, the *United Nations Framework Convention on Climate Change* (known as *UNFCCC*) would form the basis for most international climate negotiations and regimes up until today. As a work of creative non-fiction, *The End of Nature* clearly differs in tone and purpose from the two above-mentioned policy documents. All three texts, however, have been influential in contributing to a changing discourse of the environment that took shape and gained momentum in the late 1980s and the early 1990s. This essay brings these diverse texts in conversation with each other to map their role in formulating notions of an environment that differ from hitherto predominant ideas of nature through their emphasis on ethics and moral responsibility.[2] By tracing these re-conceptualizations, I will show the extent to which reading these texts as threshold texts of new ways of thinking through the Anthropocene, rather than reports of the status quo, allows for laying bare the liminal character of this specific moment in history.

The place of ethics within the humanities is a contested one, just as its point of intersection with conceptions of politics or the political is uncertain. It has become harder to differentiate ethics and politics (or the political) since poststructuralist discussions on the triad of race, class, and gender—a tradition whose theories and methodologies are often linked to the onset of ecocritical studies (Garrard 3-4; Clark, *Value* 28)—have oftentimes framed ethical questions under the label of politics, and have at times even replaced 'ethics' with 'politics' altogether. Phrases such as 'the politics of' a given phenomenon all too frequently imply a discussion that also entails ethical questions. This essay draws on an understanding of politics and the political which has its origins in and then subsequently diverged from the Marxian legacy and the heydays of the poststructuralist debates of the 1960s and 1970s. The conceptual split between politics (*la politique*) and the political (*le politique*), or what Oliver Marchart terms 'political difference,' has taken hold through a whole generation of predominantly French philosophers such as Alain Badiou, Claude Lefort, Jean-Luc Nancy, Philippe Lacoue-Labarthe, and Jacques Rancière. What all of them have in common is a certain distancing from an understanding of politics as institutional order (Marchart 2-3). The addition they propose is that of the political as a process of debate and negotiation, related to but not dependent on the structures of politics.[3] Policy documents, as I want to suggest, form a genre that lies in-between the spheres of politics (as institutional order) and ethics, namely in the realm of the political. Paying closer attention to the domain of ethics,

[2] Throughout this essay, I use the term 'nature' when referring to nature as a specific cultural concept, while using the addition 'physical' for references to the natural-physical world.

[3] For a more detailed discussion of the most central debates on the distinction between politics and the political, see Lacoue-Labarthe and Nancy (esp. 1-28 and 117-28), and Marchart (esp. 36-60). For the origins of this debate, see Ricœur's essay "The Political Paradox" (1965).

bordering on the political, allows me to shed light on questions of responsibility which are undoubtedly key to contemporary debates within the Environmental Humanities.[4]

In his seminal work *A Perfect Moral Storm: The Ethical Tragedy of Climate Change* (2011), philosopher Stephen Gardiner calls for registering "some account of moral responsibility" that takes heed of the complexities posed by climate change (20).[5] He builds on the work of Dale Jamieson who was one of the first to note that climate change and its adjacent environmental concerns are not only "purely scientific problem[s] that can be solved by the accumulation of scientific information" but also problems of ethics and politics: "It is about how we ought to live, and how humans should relate to each other and the rest of nature" (Jamieson, "Ethics" 142). This essay expands upon the definition of moral responsibility as traditionally understood within the field of moral philosophy, which is "a relationship that can hold between people and the actions they perform, or between people and the consequences of their actions" (Talbert 5). In moral philosophy, causal responsibility refers to situations in which a person "can cause an outcome without being morally responsible for it," due to either a lack of knowledge over the deed or certain external influences (9). Two variations on the above-mentioned understanding of moral responsibility seem necessary in order to adequately address environmental concerns: one variation adds perspectives from environmental and climate justice theories, the other from deep ecology and material ecocriticism. An environmental justice perspective complicates moral responsibility to the extent that it takes the "inequalities of agency, responsibility, impacts and vulnerabilities" central to global debates on environmental degradation into account (Sze, "Environmental Justice" 85). What becomes central is the assumption that humankind has the shared but differentiated responsibility to secure access to a healthy environment for all people, regardless of their social, racial, or ethnic backgrounds. Such an approach to moral responsibility opens up new possibilities to think collective forms of agency in the Anthropocene. Perspectives from deep ecology or material ecocriticism, then, extend the realm of responsibility to non-human entities by positing human beings as one form of agency among many other, non-human, agencies (see, for instance, the work of Jane Bennett). Moral responsibility is, in this vein, to be understood as a mode of responding to one's surroundings—both human and non-human—as well as to the ability to make ethically informed decisions against the backdrop of the unequal distribution of justice on a global

[4] Questions of responsibility figure prominently, for example, in approaches inquiring into the intersection of conceptions of environmental justice and the Environmental Humanities, such as Nixon, *Slow Violence*; or Sze, *Environmental Justice*. Suggesting an "environmental justice approach to Anthropocene storytelling," Nixon gestures towards the necessity for a shift in perspective to register the distributive inequalities included in the workings of humankind as a geological force ("The Great Acceleration").

[5] I am fully aware that the Anthropocene is by no means synonymous with climate change but that it comprises phenomena as diverse as terraforming, biodiversity, the rise of toxins in the atmosphere and in the soil, population growth, or global consumption. Therefore, I focus on climate change as only one possible variant within Anthropocene thinking, yet as one of the most prominent examples (also, and most notably, in the public imagination) for anthropogenic changes to the natural-physical environment.

scale. It entails reflection, the process of decision-making, and the final decision to act upon a given set of problems.

In the first section of this essay, I will outline the nexus between the concept of the Anthropocene and the domain of ethics. Drawing particularly on Dipesh Chakrabarty's conceptual distinction between *homo* and *anthropos*, my aim is to present possible ways of conceptualizing what can be called the human condition concerning moral responsibility. Subsequently, I will illustrate how the need for a new ethics of the Anthropocene is articulated in the three select texts which I read as partaking in the discourse on the Anthropocene. Along these lines, the second section will establish the connection between the human condition and the notion of responsibility with regard to conceptions of the environment by taking a brief look at the Brundtland Report, *Our Common Future* (1987), and the *United Nations Framework Convention on Climate Change* (1992/94). The third section then focuses on modifications of responsibility in Bill McKibben's *The End of Nature* (1989). I will show to what extent McKibben tries to capture the implications of responsibility and culpability within the framework set by the text, but oftentimes falls short of doing so. Following this, I will nonetheless make the larger claim that through his approach to knowledge about the environment, McKibben contributes a crucial component to the changes needed for developing a sense of moral responsibility towards the human and other-than-human environment. This essay will culminate in the argument that McKibben's deconstruction of nature is not only concurrent with emerging concepts of the environment, such as those formulated in the two policy documents, but can even be seen as a necessary prerequisite for the measures described in *Our Common Future* and the *UNFCCC* to finally take shape and be put into action.

## The Anthropocene and the Ethical in the *Anthropos*

The term 'Anthropocene' has come to be understood as describing the geological epoch in which human beings have been acting as a geological force in shaping the Earth's systems at least as profoundly as any other natural-physical processes.[6] After the atmospheric chemist Paul Crutzen and the biologist Eugene Stoermer formally introduced the term in the year 2000, the notion of an age of the human has increasingly been taken up in public discourse and in the humanities. The literary scholar Timothy Clark picks up on the idea of a new epoch and describes the concept of the Anthropocene as indicative of "a threshold in human historical self-understanding" and thereby as enabling a kind of "boundary thinking" (*Value* 21, 22; *Ecocriticism*). I share Clark's stance and would like to frame the Anthropocene, for

[6] On discussions of the Anthropocene from the perspective of the natural sciences—most notably geology and the Earth system sciences—, see Crutzen and Stoermer; Crutzen; Zalasiewicz; as well as Steffen et al. On the Anthropocene as a conceptual tool and narrative taken up within the humanities, see Chakrabarty, "Climate of History"; Bonneuil and Fressoz (esp. 3-18); and Horn and Bergthaller's conclusive introduction to the concept of the Anthropocene from a humanities perspective.

the purposes of this essay, as an invitation to critically and self-reflexively re-think the condition of the human species in its relation to the other-than-human environment.

Within the wider context of the humanities, debates on the Anthropocene have mostly focused attention on three distinct aspects: (1) conceptions of agency, (2) the extension and intricacies of temporal and spatial scales, and (3) a resultant change in the human condition.[7] A shift from the local to the global and the interconnections between those two perspectives, the focus on human agency in altering the planet and the unpredictability of the changes that have already been made—such reconfigurations have afforded as well as necessitated new conceptions of an ethics of the environment in the Anthropocene. In order to make sense of some of the implications for an ethics of the environment, I give a cursory outline of what has recently come to be understood as the environment in the context of the Anthropocene.

The concept of the environment at once gained traction and conceptual plenitude in the post-war period: The experience of two world wars brought about hitherto inconceivable destructive forces and manifestations of unimaginable evil and called for a view of the Earth as a web of interconnections.[8] The first testing of a nuclear bomb under the code name of Trinity in New Mexico in July 1945 was only the beginning of decades, even a whole era, of nuclear threat and fear. The Cold War and its cultural implications figure prominently when it comes to understanding the formation of the US-American environmental movement and environmental activism in the second half of the twentieth century and the changes it underwent towards the turn of the millennium. Suggesting that the decision of a single human being can, in the blink of an eye, eradicate the lives of hundreds of millions of human beings, animals, and plants—and indeed end nature in its physical manifestation—without any chance of resistance, provokes an eerie kind of awe in some people and sheer paralysis and fear in others. With nuclear capabilities, human beings had suddenly acquired a power that was not restrained to a specific area, but extended, in fact, across the entire globe. Until then, such a thought had only dimly been imagined; humanity was put in an entirely new position in relation to the natural-physical world. At the same time, concern about environmental degradation slowly but steadily entered public consciousness, especially in

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[7] For conceptions of agency, see, for instance, Latour, "Agency"; Dürbeck et al.; and Horn and Bergthaller, in particular chapter five on the *anthropos* (67-83). For a discussion of the scalar dimensions of the Anthropocene, see, among others, Clark, *Ecocriticism* (71-96); and Heise, "Science Fiction." For a history of science perspective, see Nordblad. For a material ecocritical perspective, see Oppermann. On the human condition in the Anthropocene, see, for example, Chakrabarty, "Postcolonial Studies" and "Human Condition."

[8] Contemporary Western thinking about the environment goes back as far as the nineteenth century when Henry David Thoreau and others started to ponder humanity's (back then 'man's') relationship to nature. For the purposes of this paper, however, I will only sketch the development of the concept of the environment in Europe and North America from the second half of the twentieth century onwards.

the Western world; "[t]he environment", Paul Warde et al. write, "has gone from being the background to the (human) world to [….] an idea shaped by planetary consciousness" (2).[9]

Given that the notion of the environment in an understanding as outlined above emerged at a moment in history when concerns about global justice, ecological responsibility, and environmental policy were beginning to be discussed more widely in the public sphere, it can be argued that a certain ethical dimension is inherent in the concept itself.[10] Or, as Stephen Gardiner puts it, we are "squarely [put] in the domain of ethics" (20). Thus, the question is not so much whether the concept of the environment touches upon ethical aspects but rather how it does so, which questions it poses, and which traditional understandings it thereby challenges. I therefore want to probe the claim that the Anthropocene, rooted in an understanding of the environment as just outlined, requires a fundamental rethinking of the human condition (see Bonneuil and Fressoz; Chakrabarty, "Climate of History" and "Human Condition"; Latour, *We Have Never Been Modern*).

In the 2015 *Tanner Lectures on Human Values*, historian Dipesh Chakrabarty suggests a valuable distinction based on a conceptual doubling of the figure of the human. Chakrabarty distinguishes between a collective biological form of human existence, humankind, as it were, and humanity as composed of various political subjects with individual and often divergent interests. He ascribes the term *anthropos* (from which the term 'Anthropocene' is derived) to the collective form of human existence and *homo* to "humanity as a divided political subject" ("Human Condition" 173). In contrast to the collective shape and working of the *anthropos*, *homo* entails dissensus, debate, and a clashing of different interests—in short, it entails what can be accredited to the political (*le politique*). Chakrabarty makes a crucial point in arguing that the distinction between the causally responsible mass of humanity and the entity of its political subjects is central when thinking about politics in the Anthropocene; for him, humanity is "always already divided by issues that in turn give rise to issues of justice," and hence never fully able to function as "an operative singular agency" (159).

Chakrabarty goes on to suggest that the term *anthropos* as such is not an ethical or moral one—it "has no moral value […] and does not signify any moral culpability"—but one of causation ("Human Condition" 157). With that said, Chakrabarty returns to the disciplinary origins of the Anthropocene as a concept in geology and the Earth system sciences. For proponents of these scientific fields, a new geological epoch is essentially characterized by

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[9] On the development of the idea of a planetary consciousness, see, among others, Heise, *Sense of Place*; Jasanoff (particularly the chapter "Image and Imagination: The Formation of Global Environmental Consciousness" [78-102]); and, more recently, Houser.

[10] While my observations of the late 1980s and the early 1990s pertain to Western culture—in particular Northern America and Europe—, the growing occurrence of environmental themes in the public sphere also began to take hold outside of Northern America and Europe around that time. Vandana Shiva, for instance, started her work as one of the most well-known and influential female Indian activists in the late 1970s and early 1980s.

permanent changes in the strata of the Earth, hence by changes that can be scientifically investigated and observed. While Earth system scientists might ask for the causes of such geological changes, they neither assess the value of these changes nor apply any criteria of justice or assign guilt on particular agents. The recent documentary film *Anthropocene: The Human Epoch* (2018) ends on the following note: "We are all [as *anthropos*] implicated, some [as *homo*] far more profoundly than others." In "the moment we define climate change not just as a physical phenomenon but as dangerous," Chakrabarty declares, "we are in the realm of values and hence of disagreement and politics" ("Human Condition" 157). In other words, through accepting the Anthropocene as a conceptual framework *beyond* the geochronological—as has been the case with the introduction of the Anthropocene to mainstream culture and public debate around ten years ago—what is at stake also becomes a question of ethics.

At first sight, policy documents may not appear to be the type of text that deals with value judgments and ethical considerations, given that their primary purpose is to define a certain set of problems, formulate solutions, and issue concrete policy recommendations. Upon closer inspection, value judgments and ethical considerations yet lie at the very core of policy and the political, since both entail processes of decision-making on contentious issues which must ultimately be decided according to specific sets of values and ethical criteria. All international climate regimes and agreements can essentially be understood as value frameworks, both the measures proposed and their implementation being dependent on a common understanding of what counts as 'right' behavior and on a system of mutual obligations between the parties involved. Article 2 of the *UNFCCC*—in this sense the normative foundation for climate accords—states its objectives as the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent *dangerous* anthropogenic interference with the climate system" (4; emphasis added). The Intergovernmental Panel on Climate Change (IPCC) affirms and substantiates this evaluation of climate change as 'dangerous' in their *Second Assessment Report* (1995), in which the IPCC commits itself to Article 2 and to subsequently "provid[ing] scientific, technical and socio-economic information that can be used, inter alia, in addressing the[se] challenges" (IPCC 1995, qtd. in Howe 251). As a decidedly forward-thinking UN report, *Our Common Future* makes use of the imaginary so as to design potential visions of future development and global intergovernmental policies. Even more, it has contributed meaningfully to conceptualizing and popularizing the concept of sustainable development (see Caradonna, esp. 143-44), which has by far exceeded the limits of policy making. Its indebtedness to the history of sustainability and sustainable development makes *Our Common Future* a document essentially concerned with values and ethics. In that sense, the two policy documents serving as exemplary texts here are just as much a part of the larger cultural and political context of their time as is McKibben's creative non-fiction text *The End of Nature*. By partaking in value judgments such as those outlined above, all three texts can be interpreted as examples of how *anthropos* becomes an ethically contested category in that its

delineation from *homo* becomes increasingly difficult to maintain. Placing these texts side by side brings to the fore their diverse ways of assessing the past, commenting on the present, and imagining the future.

## *Our Common Future* (1987) and the *UNFCCC* (1992)—The Human Condition and Moral Responsibility

Assuming that the Anthropocene verges on the realm of ethics as soon as value judgments are formulated (climate change as "dangerous" [Chakrabarty, "Human Condition" 157]) and causal responsibilities become moral ones, the distinction between *homo* and *anthropos* crystallizes the very essence of the conceptual difficulties in thinking about responsibility and justice in the Anthropocene. As one of the core documents for sustainable development and a "global agenda for change," *Our Common Future* serves as a foundation for discussions on global justice and responsibility (*OCF* 5).[11] The report creates the narrative of a "threatened" future against the prospect of nuclear war (28-40), a future which can be saved only if all parties subscribing to the objective of sustainable development join forces. The word 'common'—addressing humankind as a whole, as it were—finds various expressions throughout the report. The 'common' of 'our common future' unfolds a truly global perspective from within the Anthropocene; what this idea gestures towards is a "common understanding and common spirit of responsibility" (9), and the assumption that sharing a future on an inevitably interconnected planet requires sharing responsibility. Particularly pertinent is the notion of "common interest" that all parties involved supposedly share: that is to alleviate global poverty and the destruction of planet Earth so as to ultimately render it a habitable planet for present and future human and other-than-human life forms alike (43-45). A similar use of 'common' is advanced in the notion of "act[ing] in the common interest" (43), which signifies compromise and overcoming one's own partial interests "as a divided political subject" (Chakrabarty, "Human Condition" 173). In keeping with Chakrabarty's understanding of *homo*, however, one has to concede that the common interest can, in fact, never be fully common in the sense of entailing all parties involved. While acting in the common interest presupposes that all parties include others in their considerations, and presumes that alleviating global injustice counts as the ultimate moral goal, some parties might weigh individual interests such as economic profit or national security first. The 'common' in 'common interest' is hence predicated upon the assumption that all parties

[11] When discussing *Our Common Future*, one needs to bear in mind that the report still runs very much in line with the predominant economic paradigm of neoliberalism. The first entry of 'General Principles, Rights, and Responsibilities' encapsulates the underlying anthropocentrism: "*All human beings* have *the fundamental right* to an environment adequate for their health and well being" (*OCF* 235; emphasis added). Taking this background seriously, I still argue for acknowledging its relevance as an early proponent of fostering global debates on environmental justice grounded in the assumption of equal access to a safe environment shared by all human beings.

should give equal priority to saving the planet (implying either that all parties prioritize sustainable development above all else or that this goal is independent from other socio-political and economic interests). *Anthropos*—humankind as it collectively shares 'our common future'—and *homo* are not easily brought together.

The attribute of 'common,' particularly in relation to responsibility, recurs in the *United Nations Framework Convention on Climate Change*. The *UNFCCC* was adopted at the Rio Earth Summit in 1992, entered into force in 1994, and has been the legal foundation for international climate policy since then. In the opening section of the Convention, the UN recognizes the effect human beings have had on the Earth: "[H]uman activities have been substantially increasing the atmospheric concentrations of greenhouse gases, […] and […] this will result on average in an additional warming on the Earth's surface and atmosphere and may adversely affect natural ecosystems and humankind" (*UNFCCC* 2)—a statement that can be interpreted as a confirmation of the Anthropocene. The contracting parties of the *UNFCCC* are divided into three groups: Industrial states and emergent powers within the OECD, industrial states and emergent powers outside the OECD, and developing countries. What the Convention importantly ascribes to all its parties are "common but differentiated responsibilities" (9)—'common' as in the 'common future' the Brundtland Report invokes and 'differentiated' as to how large a contribution a particular country can make to the reduction of carbon emissions and the socio-ecological transformation needed. Here I am borrowing from a reading of the expression 'common but differentiated responsibilities' which Chakrabarty conducts in his *Tanner Lectures*, although incorrectly attributing it to the Kyoto Protocol rather than the Rio Summit. Analogous to my reading of 'common' in the context of the Brundtland Report, the 'common' in 'common but differentiated responsibilities' adverts to *anthropos* in the sense that the human species itself has an interest in surviving, and, at best, also in letting other-than-human life forms survive on this planet. However, it is the addition 'differentiated' which brings to light the truly global facet of the Anthropocene (Chakrabarty, "Human Condition" 139). Humanity is divided both in its interests and in the extent to which different groups have already used up their share of the atmosphere and of natural resources (*UNFCCC* 2). The expression 'common but differentiated responsibilities' therein also illustrates the tension between the central role humans have played in processes of globalization, on the one hand, and as a species "on an expanded canvas of history" (Chakrabarty, "Human Condition" 142), on the other, conflating the clear-cut distinction between human and natural history in the Anthropocene.

In their reference to environmental policy and sustainable ways of living, *Our Common Future* and the *UNFCCC* purport specific facets of understanding the environment as "not exist[ing] as a sphere separate from human actions, ambitions, and needs" (*OCF* 7). By quoting former liberal Canadian MP Charles Caccia, the report explicitly foregrounds an entangled approach and distances itself from a notion of the environment (or nature, as it were) as separate from human society:

> How long can we go on and *safely pretend* that the *environment is not* the economy, *is not* health, *is not* the prerequisite to development, *is not* recreation? Is it realistic to see ourselves as managers of *an entity out there called the environment*, extraneous to us, an alternative to the economy, too expensive a value to protect in difficult economic times? When we organize ourselves starting from this premise, we do so with dangerous consequences to our economy, health, and industrial growth. (*OCF* 36-37; emphasis added)

The phrase 'safely pretend' points towards a perceived state of peril in which professing the ontological distinction between the environment and the economy, health, and so forth is no longer tenable. Instead, the environment is presented as a concept of global relationality located at the intersection of natural-physical and socio-political as well as socio-economic processes. As the *UNFCCC* states: "'Adverse effects of climate change' means changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare" (4). As this quote exemplifies and as my analysis of these two policy documents has shown, the environment becomes a *politicized space*, a space in which social, economic, and cultural action and negotiation are made possible.

## Bill McKibben's *The End of Nature* (1989)—Moral Responsibility, Knowledge, and the Environment

The intricate relation of *homo* and *anthropos* becomes particularly apparent in collective forms of agency frequently found in popular non-fiction about climate change of the last few decades. Bill McKibben's *The End of Nature* (1989) is one particularly prominent example. As McKibben's first publication, *The End of Nature* constitutes the beginning of his long endeavor as an environmental activist, author, and journalist. *The End of Nature* has oftentimes been hailed as one of the first writings to bring the issue of climate change to a wider US-American lay audience (Philippon 395; Voie 199). McKibben pays attention not only to scientific findings but also to the flow of information and the affective dynamics of environmental degradation. This interrelation also finds expression in the formal make-up of the text itself: Frequently changing tone and diction, McKibben alternates between anecdotal, journalistic, and scientific styles, thereby in line with much of the writing associated with New Journalism in the second half of the twentieth century. In fact, *The End of Nature* features many of the aspects which would, a decade after its publication, become the hallmarks of the conceptualization of the Anthropocene as introduced by Paul Crutzen and Eugene Stoermer. "My basic point was," McKibben writes thirty years after the publication of *The End of Nature* in the opening note to his most recent book *Falter* (2019), "that humans had so altered the planet that not an inch was beyond our reach," which is "an idea that scientists underlined a decade later when they began referring to our era as the Anthropocene" (1). *The End of Nature* clearly has to be read in the context of a widespread

mood as sketched out earlier on in this essay—a mood oscillating between apocalyptic visions and the outlook of change—that pervaded much of the political and cultural discourse in the late 1980s and the early 1990s.

The arguments McKibben brings forward in *The End of Nature* are rooted in specific conceptual understandings of nature and wild(er)ness as cultural constructs.[12] Despite the vagueness of the concept of nature, a practical distinction between two of its major and conflicting meanings in the Western imagination shall be attempted here: For one thing, nature constitutes the "totality of the material universe," which is the physical world of nature studied by the natural sciences (Clark, "Nature, Post Nature" 75). According to this view, physical nature comprises both other-than-human and human entities. For another, nature is defined as "the other of culture" (75).[13] It is this latter notion—that of a dualism between nature and culture—that McKibben grounds his work in and the loss of which he laments in *The End of Nature*. Nature, for McKibben, is defined ex negativo as referring to "humans *not* doing things, *not* changing things, *not* acting" (Vogel 11; emphasis added). Nature is clearly the 'other' to culture and primarily defined through its contrast to the human realm.

The juxtaposition of nature and culture is rooted in McKibben's commitment to the construction of wild(er)ness and him partaking in later forms of this discourse through lamenting its loss. The late 1980s and early 1990s, however, also saw the publication of a range of studies (often in the field of environmental history) which provided both empirical and theoretical evidence of human influences on the North American continent long before the first instances of settler colonialism, thereby fundamentally questioning the existence of wilderness as pristine nature pre-1492 (see, for example, Denevan; Guha; Guha and Martínez Alier). "The time has come to rethink nature," environmental historian William Cronon apodictically states at the beginning of his influential essay "The Trouble with Wilderness" a few years after and with reference to the publication of *The End of Nature* (69). In the form of a potentially "heretical claim" (69)—given the central status of wild(er)ness in the US-American environmental imagination—, Cronon identifies two sources

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[12] The spelling 'wild(er)ness' is not meant to equate wilderness with wildness. It is more to show the close entanglement of these concepts as well as the fact that both have figured prominently in the US-American (literary) environmental tradition, oftentimes in close correlation. Whenever the spelling 'wild(er)ness' is used, I refer more vaguely to both concepts and their joint relevance in a given context or tradition; when referring to one of the two more specifically, I use distinct spellings ('wilderness' or 'wildness'). Since a more detailed discussion of the concepts and the ways in which they are related lies beyond the scope of this essay, I point to Dassow Walls for a discussion of wilderness and wildness against the backdrop of nineteenth-century science. For the relevance of wildness for the domain of ethics, see Cafaro. For a more interdisciplinary approach from a history of ideas angle to the place of the idea of wildness in the Anthropocene, see Graef.

[13] Clark adds a third dimension here, namely that of "nature in the sense of a defining characteristic" ("Nature, Post Nature" 76) as in 'the nature of a problem' or 'human nature.' For my discussion of McKibben's *The End of Nature*, this is only of secondary relevance. For further reading on possible conceptualizations of nature, see Soper and, for a more condensed overview, Clark, "Nature, Post Nature."

for the pervasive influence of positive conceptualizations of wilderness: The tradition of the Romantic sublime and the frontier myth, both of which are responsible for "freighting [wilderness] with moral values and cultural symbols" (72). The latter in particular reveals the troubled history of wilderness due to its relation to the notion of frontier primitivism, which locates the core of US-American identity in the open lands of the West at the expense of the Indigenous peoples who were systematically dispossessed, displaced, and killed during the colonization of that very territory. By situating McKibben's writing within this larger context, such critiques of nature writing of the 1980s and 1990s have dismissed the idea of wilderness (Cronon) and thereby challenged "the foundation of [much of] American environmentalism" (Wapner 8).

McKibben stands in the tradition of nature writing established by Henry David Thoreau and John Muir in the nineteenth century. Thoreau takes a formative place in the discourse of wildness and wilderness, mostly in that he has given wildness—an idea which is engendered through wilderness and compatible with humanity in that it can potentially be found everywhere (Gersdorf 36-37)—a positive, even sacred connotation as "the preservation of the world" (Thoreau 273). John Muir's approach to nature, building on Thoreau, leaves plenty of room for the construction and the appreciation of American wild(er)ness, although it is driven by a stronger geological interest than Thoreau's. Cronon sees Muir as a proponent of a "late sense of a domesticated sublime," thereby paving the way for the development of wilderness tourism, a form of "elite touris[m]" for mostly wealthy white men from the cities (75, 78; also see Purdy 188-227). Along these lines, wilderness was becoming "the false hope of an escape from responsibility," a phenomenon Cronon grounds in the status of wilderness as the conceptualization of a sphere entirely separate from human civilization and thereby automatically outside history and its socio-political dynamics (80). "We thereby leave ourselves little hope of discovering what an ethical, sustainable, *honorable* human place in nature might actually look like," he critiques and thus aligns himself with an undertaking that was to be pursued by many in the years and decades after (81). McKibben's conception of nature, interestingly, is grounded in both ideas: Wilderness (for instance 45-47, 84) and wildness (53). Although the adherence to wildness as an idea—or a form of belief—appears to fall in line with the general project of drawing attention to anthropogenic changes to the Earth, it remains problematic in its dependence on wilderness: A concept that is defined precisely as pristine nature and as devoid of any human traces.

McKibben promulgates the end of this conception of nature against the backdrop of the evaluation of anthropogenic climate change as dangerous. The focus on the human finds expression through the agency of the collective 'we' invoked earlier on—humankind as a collective whole, which is a form of agency that suggests unity and thereby seems to speak for *anthropos*. Foregrounding a collective 'we,' McKibben puts on a par, if not brings to the fore, human agency with the changes it effects and prompts questions about the allocation of responsibility. If, however, one follows Chakrabarty's contention that the *anthropos* as such does not convey any moral or normative assertion, then "we read […] *homo* back into

the word *anthropos*" the very moment "we say 'we' should do something to prevent dangerous climate change" ("Human Condition" 160). Not only has this conception of an independent nature ended; "[w]e have killed [it] off," McKibben reminds his readers with an urgency that is as pressing as it might have been eye-opening to readers in the late 1980s and early 1990s (*End of Nature* 88). "*We have substantially altered the earth's atmosphere*," McKibben declares, "we have changed […] it so much that the climate will be dramatically altered" (17, 42).

*The End of Nature* abounds with allocations of blame and statements about responsibility—both causal and moral. The following passage illustrates the sheer overabundance with which the first-person plural pronoun 'we' is used throughout the entire text:

> So—*we* have increased the amount of carbon dioxide in the air by about 25 percent in the last century, and will almost certainly double it in the next; *we* have more than doubled the level of methane; *we* have added a soup of other gases. *We have substantially altered the earth's atmosphere*. (*End of Nature* 17)

Interestingly, this passage is stronger in its emphasis on collective agency than the antecedent essay version of the book published in *The New Yorker* (9/11/1989). In the essay version, the emphasis on the collective 'we' is substituted with the simple statement that "the air around us […] is significantly changed"; only then does he add: "We have substantially altered the earth's atmosphere" ("The End of Nature" 56). One might argue that the passage in the article presents a form of causal responsibility since the collective 'we' first of all locates the causes of the changes mentioned. Nonetheless, there is reason to believe that the very—undoubtedly imposing—use of a collective 'we' in the book version has been a deliberate decision on McKibben's part, already prompting an array of questions about responsibility, culpability, and justice. This assumption gains significance when reading the above-quoted passage alongside other passages of *The End of Nature*. Accompanied by a sudden change in tone and diction as well as the text's hybridity in alternating between fact and anecdote, McKibben superimposes ethical and moral considerations on causal responsibilities: "But forget the carbon for a moment," he demands from his readers, "forget the feedback loops. Consider nothing more than that—just that the trees will die" (*End of Nature* 31). Death here takes the shape of both a biological and a moral category.[14] The dying of the trees which McKibben points to turns into a moral phenomenon through being the result of careless and destructive behavior. In this sense, the awareness of one's own power to destroy the ecological conditions for life on planet Earth becomes a decisive factor for determining moral responsibility. What is questionable about McKibben's account, however, is that he does not, in Chakrabarty's phrasing, bring *homo* into the *anthropos*, but instead takes an ethical stance towards *anthropos* without differentiating between the various agencies involved. There is space, so to speak, neither for the pre-ethical *anthropos* nor for the differentiating *homo* in his text. Although McKibben pays attention to the fact

[14] I owe this line of thinking to Catrin Gersdorf.

that only parts of the world are responsible for the actions which have brought about the changes he presents (*End of Nature* 80), the tension between various distributive differences remains unresolved.

Criticism of McKibben's work has often taken the form of a social-constructivist critique of the main thrust of his argument that nature as an idea has ended (see, for instance, Vogel). The gist of such criticism is that the construction of nature as separate from the socio-political realm cannot end since it has never existed independently in the first place. This idea reverberates the central claim of Bruno Latour's study *We Have Never Been Modern* (1993): That the overarching dichotomy by which modernity is characterized and upon which it rests—the ontological distinction between nature and science, and society and culture—is not tenable. Latour exposes modernity to have always been a paradox in which processes of purification (the separation of nature and society into two distinct ontological zones) and translation (the creation of hybrids at the intersection of these two) exist at the same time as mutually dependent (10-11). Interestingly enough, for Latour, this distinction is flawed not due to changes in the ontological conditions of nature and society, but because of a crisis in the habitual ways of thinking within Western societies. He assesses that the problems humanity is facing in the late 1980s and the early 1990s make it impossible to *think* this binary distinction. The intricate intertwinement of politics, society, culture, and nature and their relation to the realm of discourse and the imaginary is fittingly illustrated by the newspaper-anecdote with which Latour opens his book.[15] It is while reading his daily newspaper that Latour observes how "[t]he same article mixes together chemical reactions and political reactions" (1), and it is the discursive structure of the newspaper which is emblematic of the impossibility of clear-cut separations. The change he sketches is primarily epistemological and only secondarily a change in the geo-physical make-up of the planet (which would be ontological, as foregrounded in geological and Earth system science's understandings of the Anthropocene).

From the early 2000s onwards, the development of the Anthropocene discourse has profoundly changed the epistemologies of nature and the environment. In his influential study *Ecocriticism on the Edge: The Anthropocene as a Threshold Concept* (2015), Timothy Clark describes these changes as follows:

[15] In his later article "Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern," Latour retrospectively reflects on his theorizing on the social construction of empiricism and its claim to the objective neutrality of empirical facts. Engaging the reader in a similarly anecdotal fashion with a reference to a *New York Times* editorial, Latour critically dismisses the tendency towards "instant revisionism" as the social praxis of unmasking facts as socially constructed in the very moment of their emergence (228). Latour wonders whether the once disarming move of deconstructing seemingly naturalized facts in emphasizing scientific uncertainty has not, in fact, been turned against its very own premises and mobilized by climate deniers and other socio-political groups who decry all factual evidence as social construction. "Latour's disposal" of critique, Andreas Malm argues, "should be read as a sign of the crisis his intellectual project faces in a warming world" (124).

> The Anthropocene blurs and even scrambles some crucial categories by which people have made sense of the world and their lives. […] As a bewildering and often destructive contamination of human aims and natural causality, *the Anthropocene manifests itself in innumerable possible hairline cracks in the familiar life-world*, at the local and personal scale of each individual life. Something planetary is breaking through, entailing *a politicization of what may once have seemed insignificant*, as familiar day-to-day practices incite an engaged 'green' political awareness. (9; emphasis added)

Clark describes the Anthropocene as an interference and a disturbance of common categories of sense-making, even more so as an intrusion into the very fabric of everyday life. The meat we choose at the counter, the car we buy, the supermarkets we frequent, the fashion we wear, and the flowers we plant in our front yard—these once were decisions that, to be sure, contributed to a desired way of life, but other than that were largely seen as individual decisions. In the Anthropocene, however, these choices cease to be personal. Their effects, no matter their motives, are global in scale.

The interference Clark observes with regard to means of perception and epistemological scales lies at the core of *The End of Nature*. The text comments on and, in fact, contributes to the transformation in knowledge cultures, a change in our perceptions of what counts as viable sources of knowledge, how to make use of these sources, and why some forms of knowledge count as secured in some contexts while not in others. In the following excerpt from which I partially quoted above, McKibben places scientific and personal, or 'worldly,' knowledge side by side:

> *But forget the carbon for a moment, forget the feedback loops.* The trees will die. Consider nothing more than that—just that the trees will die. *When I walk outside in the morning*, instead of the slopes of trees, instead of the craggy white pines on the ridge toward Buck Hill, there may be yellowing and browning leaves and needles, thinning crowns, dead branches and rotting stumps. (*End of Nature* 31; emphasis added)

What is entailed in passages such as this one is an interesting argument not only about the synergies of scientific and worldly knowledge—the scientific attributes of carbon dioxide and the observations made while taking one's morning walk—but also about cause and effect. For one thing, the causes, here increasing carbon emissions and feedback loops, are far removed from the effects they may have on an individual garden somewhere in Minnesota. What happens in some other part of the world, or even in the stratosphere, seems to have little to do with what happens in one's own garden, on one's very own premises. For another thing, however, these effects matter hugely; they do not so much matter in scale, of course, as render an issue graspable that is often felt to be too far removed from day-to-day life. The environmental phenomena to be encountered, McKibben admits, are "outside our normal way of thinking," and "unpredictability" has become "[t]he salient characteristic" of this new situation (34, 88). The assumption that arises here is that, given the unpredictability and the "decoupling of intention and effect" (Horn and Bergthaller 74), observation on the

small and local scale becomes as important as scientific research and predictions on the global scale:

> [W]e have come to accept, and enjoy, *the intrusion of scientific explanation*—to know that we can marvel with undiminished awe at the south wall of the Grand Canyon even while understanding the geological forces that carved it. The Grand Canyon is so grand that we can cope with not being the first people to see it. The wonder of nature does not depend on its freshness. (McKibben, *The End of Nature* 50; emphasis added)

Although McKibben has often been criticized for romanticizing a notion of wilderness, the loss of which he bitterly laments, he leaves no doubt as to the compatibility and potentially even the need of aesthetic appreciation and scientific interest in the workings of the physical world. The appreciation of the natural world through a Kantian disinterestedness detached from worldly interests is substituted by a process that allows for clearly directed interestedness while still "wonder[ing]" at nature (50).

## Conclusions

Throughout this essay, I have exemplified how focusing on the notion of responsibility offers an entry-point for inquiring into dynamic discourses on the environment in the late 1980s and early 1990s. I have shown how placing *Our Common Future*, the *UNFCCC*, and *The End of Nature* side by side can elicit synergies which constitute the changing climate of their time: Challenging the dichotomy between nature and culture and the hegemony of scientific knowledge as well as (re-)discovering the affective dimensions of environmental changes. Just as the shift McKibben sketches from nature to what comes after, the late 1980s are a moment in history deeply shaped by global upheavals and conceptual changes. By marking the end of an idea that had prevailed for centuries and had determined most US-American variants of (literary) environmental thinking—nature as an independent force as opposed to culture and society—, the text's heralding of a paradigm shift in thinking and understanding the world mirrors the kind of paradigm shift symbolized by the concept of the Anthropocene. All three texts partake in mapping a latent "crisis in meaning" (Jamieson, "Anthropocene" 15) which environmental thinking was to take up and engage with in the decades following their publication.

This brings me back to a prospect given earlier on, namely that of reading these texts as revealing diverse ways not only of assessing the past or picturing the present, but also of imagining the future. The large majority of environmental problems addressed, and the concerns voiced in these three texts have, since their publication, increasingly gathered momentum and gained in urgency. With the 2018 *Special Report* on the impacts of global warming of 1.5°C, the IPCC spells out the necessity for immediate action to be taken on a global scale by sketching out future scenarios and pathways for limiting global warming to 1.5°C above pre-industrial levels. Concurrently, the term 'Anthropocene' has partly developed into a buzzword in public discourse for framing environmental issues and climate change in moral terms and assigning a new urgency to the problems at hand. While we can

observe both a resurgence in questioning what constitutes the human (i.e. *homo* and *anthropos*) and an increase in ethical imperatives, the Anthropocene surfaces, on a global scale, exactly through manifestations in the natural-physical world (brought about by *anthropos*). This seemingly paradoxical circumstance reveals, according to Eva Horn and Hannes Bergthaller, that the Anthropocene is essentially characterized through a "collision" of the two conceptualizations of the human (70, 67-81). One of the key political and ethical tasks they stipulate for the current era is "to bring the ecological impact of *anthropos* under the rational, moral control of *homo* […]" (75). On that note, the current historical moment might equally be characterized as one of transition, one that very much yields and is in need of the type of "boundary thinking" which Clark calls for (*Value* 22).

I would like to conclude that McKibben's *The End of Nature* can be read as a symptom of a 'reference crisis' of US-American environmental thinking around the time of its publication. By this, I mean that the previously dominant preoccupation of US-American literary environmental thinking with nature as a realm separate from society and its central reference point of wilderness is in a crisis in the late 1980s and early 1990s. At this time, a kind of thinking began to dawn which rendered these older forms obsolete, or difficult to think about, to say the least. Common criticism of McKibben as being inconsistent since "[h]e claims that it is 'the idea' of nature that has died, and yet draws on accumulated empirical evidence as our only proof that nature has changed radically" (Elliott 65) can then be countered by a reading that sees McKibben's reliance on empirical evidence as an impetus for calling into question predominant ways of thinking about the environment. In line with what Margaret Ronda calls the "logic of the break," what McKibben would then be said to sketch is not so much a state in which nature has ended, but rather a space in which the idea of nature *is about to end*—or even *about to be ended* by humanity. In other words, McKibben's writing reflects on a time, and is in itself a symptom of a time, in which the notion of nature gradually gives way to an idea of the environment as politicized surroundings (Ronda) or as a "built environment" (Vogel).

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