

CLIMATE CHANGE AND UN-NARRATABILITY

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Abstract

This paper discusses the representational challenge of climate change from the perspective of narrative theory. It argues that climate change, as a natural (albeit anthropogenic) phenomenon possesses no intrinsic narrative properties. Rather, narrativity is culturally imposed. As such, it is unavoidably anthropocentric, and through the very act of telling a story about events, necessarily "moralizes" them. This contradicts the claims of material ecocriticism about the narrative agency of matter, and it also complicates the frequently voiced arguments that environmental history must reject "declensionist" narratives in favor of more upbeat stories about the human relationship to the natural environment. But it is not only natural phenomena that elude narration: the hypercomplexity of contemporary world society likewise resists narrative representation. As a strategy for reducing complexity, narrative may be indispensable; but for that very reason, it is important to keep in mind that it also inevitably misrepresents a reality in which cause and effect relations are often opaque and non-linear.

I.

Climate change is the topic of ceaseless narration. The electronic media and the popular press, academic discourse and social networks, movie theatres and game consoles, literary fiction and private conversations are all agog with stories about climate change, spinning out an endless variety of futures which may or may not unfurl under its sign, telling of heroic efforts to stop it or of the abject failure to even try, of human and nonhuman victims clamoring for attention, of villainous corporations and their virtuous opponents, of sinister conspiracies seeking to suppress awareness of a mortal danger or, conversely, ginning up a false sense of alarm. One frequently told story about climate change is that the apparent inability of society to muster a coherent response to it stems from the failure to tell the right stories about it – stories which would bring home the true magnitude of the threat, split open our cocoon of petty self-interestedness, and bring about a change of heart. This story is especially popular with the champions of literary fiction – an art whose avowed purpose it is to be "the axe for the frozen sea within us," to quote Kafka's famous (and now oddly dislocated) metaphor (16). Journalist-slash-climate activist Dan Bloom expresses the idea more bluntly:

Literature has an important role to play in getting people (and especially our political leaders) to understand on an emotional and moral level just how important it is to alter our plush, gas-guzzling, CO²-emitting, coal-burning, slash-burn-consume lifestyles before it is too late. (qtd. in Holmes)

Implicit in this call to arms is the assumption that there is a gap between factual knowledge and "emotional" or "moral" understanding which literature can bridge. That such a disjunction exists with regard to climate change would appear to be self-evident. In most economically advanced nations of the world, the public is broadly familiar with the scientific consensus regarding climate change, which holds that it is to a significant degree caused by human action, will have far-

reaching consequences for the biosphere, and poses catastrophic risks to society. If this knowledge has not engendered serious efforts to mitigate the problem, it must be because people are somehow unable to translate the scenarios of climate science into the concrete terms of their own lived experience. But this difficulty has a lot to do with the ambiguous, strangely elusive quality of climate change: while the overwhelming majority of experts agree that it is indeed occurring, it can hardly be said to be a "fact" in the usual understanding of that word. Climate change names a process which takes place at scales vastly exceeding those of everyday experience, which is spatially and temporally diffuse, and whose reality can be grasped only by way of complex mathematical models incorporating knowledge from a wide array of scientific disciplines. Climate change is thus one of the most striking instances of what Ulrich Beck called "the expropriation of the senses": it is a phenomenon that, even as it threatens people's lives, eludes perception by the natural human sensorium (116). Timothy Morton describes it as the paradigmatic "hyperobject," an object which is real yet constitutively withdrawn from experience: "When you feel raindrops, you are experiencing climate change, in some sense. [...] But you are never directly experiencing global warming as such." (48) Because it is a matter of probabilities and statistical distributions, rather than of clearly identifiable causes and effects (Mayer 504-505), no particular weather event can be unambiguously attributed to climate change.

For all of these reasons, it has become something of a commonplace in scholarly debate to state that climate change poses a steep challenge to established forms of literary representation. One of the most lucid expositions of this problem can be found in Amitav Ghosh's recent Berlin family lectures, published under the title *The Great Derangement: Climate Change and the Unthinkable*. Ghosh argues that the modern novel is wedded to a set of beliefs about the orderliness and fundamental passivity of nature which are no longer suited to the new era of ecological instability we have entered. From its inception, the novel defined itself in opposition to traditional forms of story-telling, which had always "delighted in the un-heard of and the unlikely, [...] leaping blithely from one exceptional event to another," freely mixing the cosmic and the mundane (loc. 228f). The novel, by contrast, bound itself to strictures of narrative probability that reflected both the emergent world view of the natural sciences and the placid, self-assured rationalism of the rising bourgeoisie which constituted its primary audience. In Ghosh's account, the detailed renderings of setting which are characteristic of so much of modern fiction (neatly encapsulated in the creative writing nostrum "show, don't tell") are first and foremost a way to control, retard, or dissimulate the primordial narrative drive, bending it from the fantastic towards the ordinary. It was on the basis of these limitations that the novel came to be valorized as a uniquely powerful medium for the exploration of psychological complexities, whereas literary texts which violated them were banished to the "generic outhouses" of fantasy, horror, or science fiction (loc. 338). However, this gain in respectability was bought by a loss of capaciousness which has left the novel poorly equipped to deal with the heteroclitic forces, the vast temporal and spatial scales, which climate change compels us to imagine: "Unlike epics, novels do not usually bring multiple universes into conjunction [...]. Unlike epics, which often range over eons and epochs, novels rarely extend beyond a few generations. The *longue durée* is not the territory of the novel." (loc. 830) In most traditional forms of narrative, one finds "a completely matter-of-fact acceptance of the agency of nonhuman beings of many kinds," such as is characteristic of the Indian epics (loc. 909). The novel, by contrast, is deeply implicated in the anthropocentric myopia which came to dominate modern Western thought in the wake of Reformation and Enlightenment. The "unthinkable" Ghosh references to in

the book's subtitle is thus not a property of climate change as such (or of the Anthropocene, for which it so often serves as a metonym) – rather, it reflects constraints inherent in the repertoire of narrative forms modern thought has limited itself to. The problem of thinking the unthinkable is one that must be addressed in terms of the laws of genre, and of the cultural dispositions the latter encode. Understanding climate change therefore involves crafting new (or refashioning old) narratives capacious enough to grasp the complex intertwining of human actions with a wide array of nonhuman agents and cosmic forces.

If I have summarized Ghosh's argument at such length, it is not so much because of its originality, but rather because it exemplifies views which are widely shared (albeit rarely expressed with such incisiveness and stylistic verve) across the various disciplines which constitute the environmental humanities. Significantly, by pointing to the ancient epic as a precedent for the kind of narrative that will be required in order to come to terms with climate change, he invokes a genre which predates the modern differentiation of specialist discourses, combines the features of the encyclopedia with those of the conduct book, and blurs the lines separating factual information from moral instruction, or history from fiction. Indeed, Ghosh's argument is salient not only for ecocriticism, but just as much for the discipline which has in fact made the *longue durée* its home turf, namely environmental history. Just as the novelist in a time of climate change must struggle against the limitations of her genre, so environmental historians have wrestled with historiographical conventions that sharply distinguished between natural history and history proper, between what the philosopher R. G. Collingwood called "events" and "actions," where only the latter were worthy of the historian's attention (115). Many environmental historians must have been taken aback by Dipesh Chakrabarty's announcement, in his widely read essay "The Climate of History," that climate change was calling this distinction into question – as if their entire discipline had not been founded on the insight that human and natural history are not so neatly separated.

Ecocriticism and environmental history often converge, then, in the conviction that we can and must tell "non-anthropocentric" stories about the relationship between humans and the ecological environment which sustains them – that is to say, stories which do not accord primacy to human actions and intentions, which acknowledge the categorical impurity of the human, its profound imbrication with and dependency on other living and non-living entities. We need such stories, it is argued, because they can provide guidance in a situation of ecological crisis which is itself the result of a constricted understanding of the relationship humans entertain with the biosphere – an understanding that denies the agency of non-human beings, and that is both reflected in and promulgated by the modern repertoire of narrative forms. My aim in this essay is to trouble these assumptions – not because I think that we could in fact dispense with stories about climate change, but precisely because our inability to do so makes it very tempting to confuse them with reality, or at least to overestimate their purchase on the world. Narration, I will argue, always involves the projection of human preferences and values onto a world that, in and of itself, is indifferent to them, that is not story-like and therefore, in a very basic sense, un-narratable.

II.

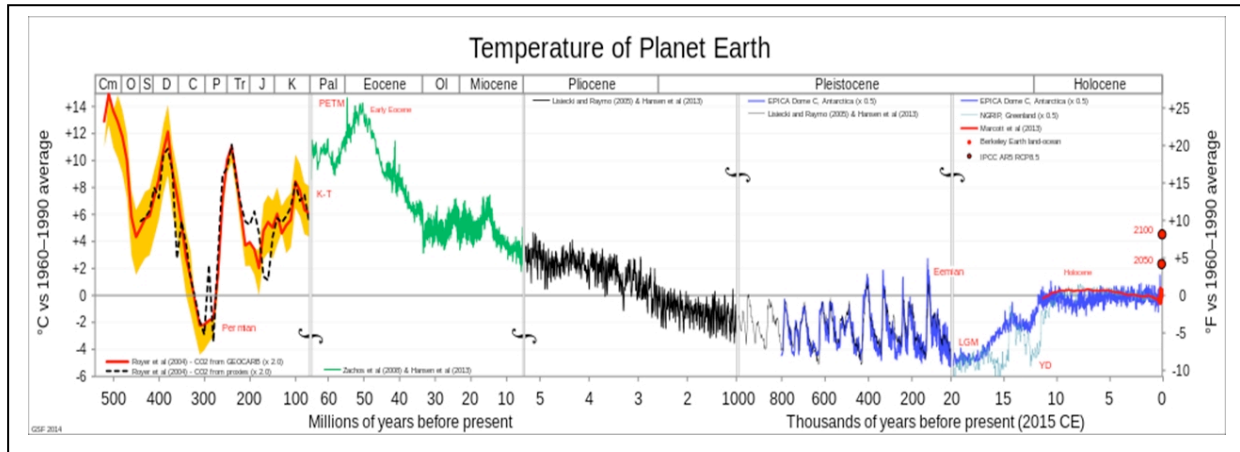
This argument is at odds with the belief, increasingly popular among ecocritics, that the epistemic authority of narratives can be grounded in the material world itself. Among the most vocal exponents of this tendency are Serenella Iovino and Serpil Oppermann, who propose that stories should not be understood as human-made semiotic artifacts, but rather as "co-originated [...] with the agentic stories of mat-

ter" (81). Matter itself, they argue, has "narrative agency," "embodying its own narratives in the minds of human agents and in the very structure of its own self-constructive forces" (83). This claim rests on an understanding of matter which draws on the family of theoretical approaches that have come to be grouped under the umbrella term of the "new materialisms," including Karen Barad's agential realism, Jane Bennett's vital materialism, Donna Haraway's material semiotics, and the various versions of actor-network theory advanced by authors such as Michel Callon, Bruno Latour, or John Law.¹ All of these approaches start from the idea that things acquire their identity and meaning through the web of relations that connects them to other things. In this regard, things are like signs, which, as structural linguistics discovered, also acquire meaning only through their relationship to other signs. This was the foundational insight of Latour, who in fact derived crucial components of his theoretical vocabulary (such as the "actant" and the "trial of strength") from Algirdas J. Greimas' semiotics of action (Lenoir 125). This sign-like quality of things suggests that materiality and semiosis should be viewed as inseparable from each other: signs only signify insofar as they are materialized, and matter only matters insofar as it signifies as an element in a network or relations.

It is, however, quite a leap from the claim that the relationality of things renders them sign-like to the assertion that they therefore have an inherently narrative quality. After all, narratives are a rather special case of the use of signs that should not be conflated with signification in general. It is easy to concede that, as research in biosemiotics has shown, processes of signification occur continuously in the natural world without any human involvement. Deer, for example, seem to be able to interpret smoke as a sign of fire. And yet, to say that the smoke "tells a story" of fire would clearly be a stretch. The deer's apparent ability to understand that where there is smoke, there must be a fire, would indicate that it can associate smoke and fire as elements in a single causal chain – but this is hardly the same as grasping them as elements of a narrative. What is it, then, that qualifies a particular sequence of signs as a narrative? What is the "surplus value," so to speak, that distinguishes a narrative from a mere chain of causes and effects? And why is it that climate change, considered as a series of events occurring over time, does not have the form of a narrative?

In attempting to answer these questions, I want to begin with the definition of narrative Tzvetan Todorov proposed in "Structural Analysis of Narrative." While this hardly represents the state of the art in narratology, it has the distinct advantage of being about as simple and bare-bones as it can get. According to Todorov, "[the] minimal complete plot can be seen as the shift from one equilibrium to another. [...] The two moments of equilibrium [...] are separated by a period of imbalance, which is composed of a process of degeneration and a process of improvement." (75) While Todorov takes his definition of equilibrium from social psychology, the very terminology suggests that it should be easily possible to transfer it to ecological matters – in the natural world, too, we are accustomed to speak of periods of stability and periods of change, of imbalances and equilibria. Looking at a graph tracking the Earth's average temperature over the course of the Phanerozoic eon (fig. 1), we can speak, for example, of the Holocene (i.e., the geological epoch from the end of the last ice age, about 12,000 years ago, up to the present) as a time of relative climatic stability which has now, with the onset of the Anthropocene, come to an end. But there were, of course, plenty of fairly drastic fluctuations within this epoch, especially at smaller spatial and temporal scales, lending the graph its somewhat shaggy appearance. If, on the other hand, we were to look at larger time frames, it would be equally plausible to speak of the Holocene itself as a disturbance: it falls into an interglacial period, constituting one of the relatively brief warm-

ing peaks that have, during the preceding Pleistocene, occurred at regular intervals of roughly 100,000 years between the longer ice ages. And then again, one may think of the entire cold Pleistocene as an aberration from the warmer conditions that had prevailed during much of the Cenozoic era (starting about 65 million years ago), or even the Phanerozoic eon (the entire 500 million years covered by our graph).



If the reader has become a little confused at this point, that is entirely apposite: when we look at the graph, whether we see equilibrium or imbalance, and which phases therefore appear as normal and which ones as disturbances, depends entirely on the temporal and spatial frame we apply. This is an instance of what ecologists refer to as the "scale effect," which makes it very difficult to determine objectively whether a particular ecosystem is stable or in flux, well-ordered or in disarray (Kricher 16). In a system used to frequent disturbances, e.g. bushfires, these disturbances are part of its "normal" state; a longer period without disturbances would thus itself constitute a disturbance (cf. Wilkinson). With regard to the global climate, there is no factual evidence which could determine by itself whether periods of relative stability such as the Holocene should be considered as the norm, or as themselves constituting aberrations from normal conditions which are characterized by greater fluctuation. There are no natural temporal units which would compel us to draw our distinctions in one way or another (as the ecologist John Kricher quips, global climate is a lot like New England weather; 140). Nevertheless, it is of course possible to symbolically reconstruct the changes of the global climate in the past with the help of Todorov's little narrative oscillator function and to turn them into a "complete plot." Yet the precise moments where we would have to place the demarcations that render a particular stretch of time into a narrative (progressing from equilibrium to imbalance and back to equilibrium) would be essentially arbitrary, in the sense that they are underdetermined by evidence from the climatic record. They would therefore necessarily reflect the preferences and interests of whoever is telling the story.

This circumstance played an important role during the infamous "hockey stick controversy," in which Michael Mann, one of the key contributors to the IPCC's 2001 report on the global climate, was accused of having cherry-picked the data for his reconstruction of the global climate since the year 1000 in order to minimize climatic fluctuations during the Medieval Warm Period, thereby exaggerating the significance of the rise in temperatures during the closing decades of the 20th century (Chameides). The problem was, of course, that Mann was indeed trying to tell a story – namely, that humans were responsible for climate change, and needed to

take action in order to stop the process. And because he was telling a story, the selectivity of his account could be seen as motivated by the exigencies of his narrative, rather than by the findings of climate science. This problem is confounded by the fact that in a complex system such as the global climate, which involves multiple, often barely understood forms of feedback and a well-nigh incalculably large number of agents which stand in relations of mutual dependency, the kind of linear causality a coherent narrative requires is difficult to establish, to say the least. The seemingly straightforward correlation between atmospheric CO² levels and global temperatures, for example, did not necessarily imply that the former was a cause of the latter – after all, causality can equally well run in the opposite direction, as when the thawing of permafrost leads to a release of CO² (cf. Stips et al.).

To be very clear: my aim is not to cast doubt on climate science. What I want to emphasize, rather, is that natural processes do not present themselves in the form of a narrative, but as an open-ended, unbroken series of occurrences. This need not imply that there are no beginnings and endings in the natural world before it is narrativized (if this were indeed so, the discipline of stratigraphy would be in serious trouble), but it does mean that such beginnings and endings as there are do not compel us to choose among them in any particular way (which is the reason why stratigraphy is such a tricky business). To configure a set of events into a narrative is to endow them with a meaning that they do not possess as long as they are merely considered as a temporal sequence. It is not that the world is somehow amorphous or featureless, yielding to whatever order human symbol-making would impose on it; rather, it contains a surfeit of features, but lacks inherently binding criteria of relevance. The production of narrative meaning is a way of reducing this overwhelming complexity and of making it manageable. It always involves selecting which features of the world are significant to narrator and narratee – and it is this process which inaugurates a meaningful order that is manifestly social, even if we assume that the elements of which it is composed are nature-culture hybrids of some sort. As Richard Walsh puts it: “Whatever view we may wish to take upon the actual relations existing between the multitude of real events, the isolation of any particular sequence is already the intervention of narrative artifice.” (2007: 53)

In order to turn such a temporal sequence into a fully-fledged narrative, however, the selection of a discrete beginning and a definite endpoint is not quite enough – it must also be indicated how the ending stands in a meaningful relationship to the beginning, how the story’s conclusion was in a sense already implicit in the situation with which it opened. That is why Paul Ricoeur, along with many other theorists of narrative from Aristotle onwards, has suggested that narrative time is always circular time (71ff). For a string of utterances to qualify as a narrative, the events of which it tells must also be causally linked, and the sequence as a whole must be shown to have a “point.” At the end of a narrative, we must have learned something that prompts us somehow to reassess the initial situation. In that sense, the statement “the Pliocene was warm, the Pleistocene was colder, the Holocene was a little warmer, but not quite as warm as the Pliocene” is not a narrative because it fails to satisfy this basic condition: as such, the fact that the Holocene was warmer than the Pleistocene does not tell us about the causal relationship linking the two, or change how we view either epoch (although it might, in conjunction with other climatological evidence, help us understand the mechanisms which regulate the planet’s temperature).

Perhaps the most important point for my argument here is that narrative is necessarily selective, and that this selectivity invariably reflects the interests of the narrator. This throws into question the argument that narrative needs to be “scaled up” so as to fit the new realities of the Anthropocene. As we have seen, Amitav

Ghosh argues that it is only by “excluding [the] inconceivably large forces” which drive ecological change and “telescoping [them] into the duration of a limited-time horizon, that the novel becomes narratable” (loc. 858f) – and he compares this unfavorably to the cosmic sweep of epic narration. Yet while the criteria by which the latter determines what to include and what to exclude from the story are undoubtedly very different from those which obtain in a typical modern novel (if there is such a thing), they could hardly be said to be any less selective. And just as with the novel, the epic’s principles of selection do not reflect the agentic capacities of non-human beings, but rather the practical concerns of the particular society from which it originated. Narrative cannot be grounded in some sort of narrative property intrinsic to the natural world; it is a distinctly human artifact which encodes the values of particular human communities. As Hayden White has argued, the desire to discover a narrative order in the world “is intimately related to, if not a function of, the impulse to moralize reality, that is, to identify it with the social system that is the source of any morality that we can imagine” (14). No matter whether we are dealing with an epic, a novel, or a work of historiography, a narrative is always a social performance in which the relationships between the various actors are brought to judgement; it implies the presence of an audience whose values its challenges or affirms.²

Another way of putting this would be to say that narrative form is inherently anthropocentric – not in the sense that all stories would somehow assert the moral supremacy of the human species, but rather in the more basic sense that whatever value judgements they make, they must make in terms that are humanly comprehensible, and from a human point of view (i.e., from a position Bernard Williams has labelled “epistemic moral anthropocentrism;” 118). This also implies that if such a thing as a truly non-anthropocentric narrative of climate change were indeed possible, it could not provide us with the kind of practical guidance which supposedly necessitates its telling, in the first place. It would not be able to tell people how they ought to conduct themselves in the face of ecological crisis.

III.

What this does not imply, however, is that we could simply dispense with stories about climate change. William Cronon’s “A Place for Stories: Nature, History, and Narrative,” published in 1992, remains one of the most cogent defenses of historiographical narrative about the human involvement with the ecological environment. In this essay, Cronon contrasted two historical accounts of the Dust Bowl (the period of drought and massive erosion which struck the Midwestern prairies during the 1930s), one by Paul Bonnifield, the other by Donald Worster, and showed how these two authors, even though they largely drew on the same archives and agreed on most of the historical facts, ended up with dramatically different versions of the events: whereas Bonnifield told a celebratory story about the endurance and practical intelligence of common people, Worster presented a cautionary tale of human ignorance and greed coming to grief. In a painstaking analysis, Cronon teased out the rhetorical strategies and framing devices employed in these two narratives, elucidated their divergent political implications, and showed how each of them fit into a family of related stories, which he labeled “progressive” and “declensionist,” respectively. Cronon conceded the validity Hayden White’s most fundamental point about historiography: that the act of emplotment – the configuration of a set of events into a coherent narrative pattern – always supervenes on the evidence at hand, endowing it with a moral significance that it otherwise would not have. However, he emphasizes that this does not mean that “anything goes,” or that historians

should give up on narrative, but on the contrary, that they need to consciously embrace the public and political responsibilities it implies:

As storytellers we commit ourselves to the task of judging the consequences of human actions, trying to understand the choices that confronted the people whose lives we narrate so as to capture the full tumult of their world. In the dilemmas they faced we discover our own, and at the intersection of the two we locate the moral of the story. If our goal is to tell tales that make the past meaningful, then we cannot escape struggling over the values that define what meaning is. (1370)

While narrative does not inhere in the world of things, it is, Cronon insists, nevertheless grounded in "community, in politics, and finally in the moral problem of living on earth" (1374).

Controversial as it was at the time of its publication, Cronon's argument that environmental historians need to adopt a more reflexive attitude towards their own narrative practice has become a commonplace – as evidenced by the trend among environmental historians, ever more pronounced during the last few years, to renounce declensionist narratives and seek to get "Beyond Doom and Gloom," as the title of a recent issue of the Rachel Carson Center's house journal *Perspectives* has it; to quote Elin Kelsey's editorial introduction to this issue: "the way we communicate about the environment is so negative and overwhelming that we are fueling a culture of hopelessness that threatens to seal the planet's fate." (5) Environmental historians, Kelsey argues, need to tell success stories, stories that inspire hope in their readers and show that environmentalist politics is not a lost cause. Similar views are echoed by the various advocates of a "good" Anthropocene, such as journalists Emma Marris, Andrew C. Revkin, and Christian Schwägerl, geographer Erle Ellis, or ecologist Peter Kareiva; by ecocritics such as Greg Garrard (113ff) or Dana Phillips, who have criticized the environmentalist penchant for apocalyptic narrative; but also by the climatologist Mike Hulme, who argues that in order to convince people to take action with regard to climate change, we need to have a clear understanding of the narrative frames that are employed in communication about the subject (300f).

Such a pragmatic view of narrative is broadly in line with much of the research on the social functions of narrative that has been conducted across the humanities and social sciences over the past few decades – for example with Jean Mandler's and Nancy Johnson's seminal studies of how narrative schemata pre-structure the telling of past events; with Jerome Bruner's argument that storytelling is the principal medium in which societies not only encode their sense of what is normal, but also figure out how to deal with departures from these norms; or with the views of philosophers such as Alasdair McIntyre and Walter Fisher, who similarly propose that moral suasion must be couched in narrative forms in order to be effective. Differences in the details notwithstanding, this entire body of work points to the conclusion that narrative is a constitutive element of human cognition and a crucial catalyst of social synthesis. It is principally through narrative that social identities are forged, stabilized, shared, and continually revised. And unlike stories about non-human nature, stories about human interactions can claim to capture something essential of that which they represent, insofar as people often act the way they do because they conceive of their own actions in terms of the narrative scripts already circulating in their culture.

It must be noted, though, that such arguments sidestep the question of the epistemic value of narrative and instead turn directly towards the pragmatic question of its rhetorical effectiveness. Ultimately, they suggest that good stories are

needed because they help to sustain community and enable people to act collectively in a manner that helps to prevent negative outcomes – and not because they tell us what is really the case or provide us with an accurate picture of the world. But the very ability of narratives to make tractable a world whose complexity might otherwise overwhelm us, and to configure experience into vivid, memorable, easily transmissible patterns, also entails the danger that they may make us blind to processes which are not amenable to representation in such terms. In the foregoing, I have tried to show that climate, as a complex system with emergent properties, resists narrativization. The mechanisms which give rise to the changes climate scientists observe can be modelled mathematically, but to cast them in the form of a narrative is necessarily to misrepresent them. Narratives present events in terms of a bounded, temporal sequence of goal-oriented actions linked by a linear causal chain. The order of a complex system, by contrast, emerges from a very large number of concurrent interactions at a small scale that are linked by multiple feedback loops. Although these interactions are not coordinated, they give rise to behavior that, in the aggregate, appears to be goal-oriented – and may therefore invite representation in narrative form. As H. Porter Abbott has argued, this is the reason why no amount of scientific evidence in favor of evolutionary theory has ever been able to trump the intuitive attractiveness of the “argument from design” (241): wherever we encounter order in the world, we are inclined to look for an ordering hand. Human beings have a natural tendency towards narrative explanations, yet such explanations are seriously misleading with regard to an emergent process such as biological evolution, which is “the aggregate consequence of thousands, millions, or even billions of tiny stories that play out at the micro level” (235). It is possible to narrate the events which constitute evolutionary history at a small or a large scale – however, in order to grasp the logic which governs the process as a whole, we must understand that “there is no narratable connection between these levels” (ibid.).

Importantly, with regard to the problem of climate change, the climate itself is not the only complex system which frustrates our desire for the “deceptive clarity of a narrative” (Abbott 238). World society, too, constitutes a complex system with emergent properties that cannot be understood by extrapolating narrative patterns from the micro to the macro level. Just as the trajectory of biological evolution cannot be explained by a study of animal behavior at the individual or group level, so the large patterns that can be observed in the development of society possess a dynamic that cannot be comprehended with the kinds of categories we employ in order to understand the lives of individuals and small groups of human beings, because they are the aggregate result of billions of actions and decisions, inactions and indecisions, by a myriad of individuals, organizations, and institutions, acting on a host of conflicting priorities. In the case of world society, too, we have to reckon with scale effects which, as Timothy Clark has so forcefully argued, make the application of psychological and moral categories misleading, if not counter-productive (75; 198). This, rather than a mere lack of moral fervor or emotional urgency, is the reason for the curious intransigence of world society against attempts to steer it away from ecological catastrophe: it simply does not have a single top or center at which social critique could be addressed. There is no single, controlling agency whose decisions have caused climate change, and no institution which would possess the legitimacy, the political power, or even the knowledge necessary in order to effectively implement a comprehensive policy to stop it. Perhaps more than we need stories about climate change, then, we need a theoretical model that would allow us to grasp the actual complexity and the emergent properties of the social system which has produced it, in the first place.³

Again, this does not mean that we should reject any particular narrative about anthropogenic climate change, nor that we need to renounce narrative in general as a mode for coming to terms with its larger meaning. It does, however, throw into question the meta-story about the salvific force of stories that environmental humanists are fond of telling. For that reason, I am also skeptical towards Ghosh's call for a rehabilitation of the narrative impulse and a reinvention of the epic for the Anthropocene. Rather than dismissing the development of the modern novel as a process of anthropocentric constriction, I would follow Richard Walsh when he suggests that we view it "as part of a continual struggle to transcend the limits of narrative sense-making" (2016: 277). From this perspective, the many formal innovations and self-imposed interdictions, the experiments with focalization and narrative time, the intertextual and metafictional games, and the programmatic distrust of narrative that characterize so much of modern fiction testify to a desire for forms of linguistic representation that can stand up to the complexity of the world we find ourselves in. Whatever else they are about, they are also stories about how not to get bamboozled by our own desire for a good story. Since we must have stories about climate change, this is surely one of the lessons we should want them to teach.

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Notes

- 1 The field is so far-flung and heterogenous that a list of representative publications would necessarily exceed the length of what Anglophone readers are likely to deem tolerable in a footnote. However, the essay collection *Material Ecocriticism* (ed. Serenella Iovino and Serpil Oppermann, Bloomington: Indiana UP, 2014) provides a good overview.
- 2 As will perhaps have become clear at this point, I follow Hayden White in assuming that *all* narrative is in a fundamental sense fictional. The distinction between non-fictional and fictional narrative cannot be grounded in the ontological properties of their respective referents – the relevant difference between them is not that the one refers to real, the other to fictional entities. Rather, as Richard Walsh has argued, the difference between them is *rhetorical* – i.e., they make distinctive claims on their audience. From this perspective, "non-fictional narrative is seen as narrative under certain supplementary constraints (connoting historicity, objectivity, etc.) that serve to establish a rhetoric of veracity" (2007: 39).
- 3 As I have argued on numerous occasions, Niklas Luhmann's theory of social systems should be considered a prime candidate in this regard (e.g. Bergthaller 2016).

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