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"The Voice of the Storm"

Contemporary ecocriticism has begun to fashion new narratives of modernity around climate change and the Anthropocene, that inescapable term that some love, others loathe, and that some geologists have now declared that we inhabit: the age of human-made climate shift that follows on from the Holocene.[1] A microburst of critical activity has recently focused on why it is so difficult to represent and theorize climate change in relation to modernity, including work by Dipesh Chakrabarty, Bruno Latour, Rob Nixon, and Anna Tsing, to name just a few.[2] Among this rising tide of environmental criticism that addresses the difficulty of representing shifting weather patterns, it is the work of the novelist, memoirist, and critic Amitav Ghosh that has generated some of the most polemical debate within literary studies. Ghosh's 2016 book *The Great Derangement: Climate Change and the Unthinkable* begins with a simple question: Why is it that climate change looms so large in popular media and policy discussion today but is rarely the subject of serious contemporary literary fiction?[3] Like many of these other critics, Ghosh locates our inability to "think" climate change in a coherent way (and to act on it) in the twin legacies of global capitalism and empire. What is innovative in Ghosh's approach, however, is his desire to align political critique with a problem in representational aesthetics. How is the blindness of climate denial, he asks, mirrored in (or even facilitated by) the failure of realist literature in English to depict this crisis? Whatever one might think about Ghosh's critique of realist literature or his definition of "serious literature," Ghosh argues (convincingly, to my mind) that "the climate crisis is also a crisis of culture, and thus of the imagination."[4] According to Ghosh, much modern literature does not give weather the time of day. And by "modern" literature he means literary fiction written since the nineteenth century and the advent of human-caused climate change. Ghosh's thesis is provocative on many fronts. It seeks to analyze how descriptions of discrete weather events can come to stand metonymically for larger patterns of climate change. It is at once a theory about how literature works as well as how we think about periodization.[5] One of his central claims is that

premodern writers (by which he means pre-nineteenth-century writers) take both weather and climate seriously in contrast to their modern counterparts, who consign them to the background, when they appear at all. Given this critique, Ghosh understandably focuses his attention on the failure of post-nineteenth-century literature rather than the "success" of earlier work.

Ghosh's largely unexplored assumptions about premodern literature and its relationship to weather and climate serve as the critical provocation for this essay, an experiment designed to test out Ghosh's assumption about the literary meteorological imagination before the regularization of the geologic sciences and the advent of the realist novel. Following Ghosh, I ask in what ways might it appear that premodern writers take weather more "seriously" than their modern counterparts? How did extreme weather events help premodern writers to think "the unthinkable"? To express belief systems that were otherwise unrepresentable? Since Ghosh's argument centers on what happens to English textual culture in the Anthropocene, this essay draws its examples from the climatic period that preceded ours: that of the Little Ice Age, a time of conspicuous cooling in the North Atlantic when temperatures began to drop by as much as 2 degrees Celsius, beginning just after 1300 and lasting up through the early nineteenth century.[6] How did writers of the Little Ice Age assign causation with respect to weather-related disasters? Did they imagine these events to originate in the beyond-the-human world or within the human one? What causal ties connected these realms and to what extent did they overlap?

To answer these questions, this article analyzes several premodern instances of extreme weather: the torrential rains that led to widespread famine across Northern Europe beginning in 1315; a mid-fourteenth century storm that swept across the North Sea; and a seventeenth-century lightning strike on a rural Cheshire church. While these meteorological events differ as to their scale and their physical effects, the narratives built around each teach us lessons about how writers in the early part of the Little Ice Age imagined their own subjectivity in relation to forces beyond them. Each of these case studies offers multiple accounts, in multiple genres, of a given weather-related phenomenon, and, in so doing, each offers a way to understand how narrative grows around and frames weather events. Moreover, they offer an opportunity to interrogate the challenges and benefits of premodern texts as part of the paleoarchaeological record: how do we assess different accounts of the same event, especially accounts that may sometimes be written at a significant temporal remove from the initial disaster? Examining the textual archive generated by each storm allows us to see not only the differences across the early Little Ice Age—the discrete set of philosophical problems for the writers who document these events—but also the continuities—the ways in which post facto attempts to narrate storms are always attempts to fashion collective truth from individual experiences.

In taking soundings from multiple points in the early centuries of the Little Ice Age, the essay does not seek to create a teleological narrative of how responses to extreme weather shift over time. Instead, it values, in the words of cultural geographers Payson Sheets and Jago Cooper, "the importance of knowledge developed over the long term within contextual ecological settings."[7] Each of these storms "speak" to us with different voices. Each of these case studies

accordingly asks: What does it mean to give a voice to environmental hazards? The opening section argues that we see the extended effects of disordered weather in an early fourteenth-century poem *The Simonie*, a poem that, while usually read in the context of anticlerical satire, also links social and ethical failings to shifting weather patterns. The poem addresses the instability of the early years of the Little Ice Age, representing what climate change feels like before there is a concept of climate change. The following section turns to descriptions of a gale that ravaged the European North Atlantic in 1362, descriptions that appear in historical chronicles as well as alliterative poetry. Reading such accounts contrapuntally across genres demonstrates how central narration is to our interpretation of climate events; this model of "bionarrativity" shows us that textual accounts of natural disasters do not just provide formal containers for describing an event after the fact, but rather serve as the pre-exiting hermeneutic nexus in which we experience weather events as they are happening. The essay's last case study expands our understanding of the bionarrative circuit by examining a single lightning storm in a small Cheshire town. The reception of this event manifests what I will call "environmental prosopopoeia," a rhetorical tool that transforms the noise of the storm into the language of moral suasion. The long textual afterlife of this disaster shows us that storms sometimes mutter, sometimes roar, but in all cases the drive to personify them speaks (sometimes literally) to the tension between individual and general responsibility for not just perceived societal failings but also to the complex networks of agency that link humans to the weathered world in which they live. Finally, the conclusion returns to the question of how theories of weather disasters in the Anthropocene function as theories of modernity and why, given our current climate concerns, it is not just useful but necessary to excavate the archaeology of the disaster archive of the Little Ice Age, stories that set in place narratives that continue to influence Anthropocene understandings of environmental disasters.

1. Representing Climate Change at the Outset of the Little Ice Age: *The Simonie*

The hallmark of the Anthropocene is arguably the anthropogenic (or human-made) weather event: the storm surge rising not by inches but by feet on account of climate change, the 100-year flood that now arrives every two years, drought-fueled wildfires that burn millions of acres. There is almost unanimous scientific consensus that human-caused climate change has worsened extreme weather. The belief that humankind *causes* weather is of course not a new one. All of the case studies considered in this article imagine natural disasters as retribution for human moral failings. While writers of the Little Ice Age did not introduce the idea of weather events as retributive justice for human sin—as evidenced by the flood stories of the Sumerian Utnapishtim, the Greco-Roman Deucalion and Pyrrha, and the biblical Noah—storm narratives began to resonate in new ways, as weather conditions deteriorated conspicuously in the North Atlantic at the beginning at the fourteenth century.

Early fourteenth-century writers in Northern Europe began to understand that the environmental patterns they observed around them every day were not the same as those of their grandparents' and great grandparents' generation. The first decade of the fourteenth century saw widespread cooling in the British Isles, Northern France, the Low Countries, and Germany, countries that experienced unprecedented cold and severe storms.[8] Periods of drought alternated with relentless deluge. Early in the summer of 1315, it began to rain and

didn't stop raining. Farmland became inundated; crops rotted; cattle contracted murrain and died. In the fall of that year, a comet appeared that was so bright as to be visible day and night. Contemporary chroniclers considered it to be an omen of further natural disaster and pestilence.[9] They were not wrong. Dendrochronological data, ice cores from Alpine glaciers, and sediment cores from European sources all witness that the 1310s and early 20s were a decade of climactic stress.[10] This was the beginning of the Little Ice Age, and, while historians refer to this period under the catch-all rubric of the Great Famine of 1315, it was in fact a period of extreme weather that lasted for more than a decade and that dramatically marked the end of the preceding warmer period, the so-called Medieval Climactic Anomaly.[11]

Even conventional genres such as sermon literature and estates satire registered the climate shift associated with the beginning of the Little Ice Age. To take just one example from England, the anonymous poem *The Simonie*, dated to the 1320s, makes the case for the exceptionalism of the recent succession of years of frigid temperatures and torrential rains. *The Simonie*, also known by its alternate title "On the Evil Times of Edward II," is an example of estates literature, lamenting the failings of various classes to fulfill their duties to the common profit.[12] Greed rules the papal court at Rome; English clerics are unlearned, or worse, ambidexters, serving king before church; barons and knights engage in civil war, destroying the land rather than protecting the poor.

While this poem has understandably been discussed as an example of the literature of social complaint and anticlerical satire, it can also be seen as a response to the sudden climatic shift, since *The Simonie*-poet connects these social ills specifically to the changing climate of early fourteenth-century England. One of the poem's early editors connects these stanzas to the recent tempests and failed crops noted by many contemporary chroniclers.[13] The recent bad weather, according to the anonymous author of *The Simonie*, is a divine instrument used to punish the proud and the sinful. The poem describes neither a single storm nor a lone bad harvest season but rather a sustained pattern of weather variability over many years:

For tho God seih that the world was so over gart,

He sente a derthe on eorthe, and made hit ful smarte.

. . .

So can God make wane, ther rathere was won.

. . .

And after that ilke wante com eft wele i-nouh,

And plenté of alle gode grouwende on uch a bouh.

Tho god yer was agein i-come, and god chep of corn,

Tho were we also muchele shrewes, as we were beforn,

Or more.

Also swithe we forgeten His wreche and His lore.

Tho com ther another sorwe that spradde over al the lond.

A thusent winter ther bifore com nevere non so strong. (*The Simonie*, ll. 391–392; 396; 403–410)

[When God saw that the world was so prideful

He sent a famine to the earth and caused it pain.

. . . .

Thus can God send scarcity where there was plenty.

. . . .

And after such great scarcity once more came bounty,

With an abundance of fruit growing on each branch.

When a good year came again with a good market for wheat

Then we returned to being as shrewish as we were before,

Or even worse,

So swiftly had we forgotten his punishment and his teaching.

Then came there another calamity that spread across the land.

There had never been one like this in the past thousand years.][14]

The poem is unusually sensitive to how a changing climate changes our sense of time, how one good season can make people forget a recent stretch of bad years. The apparent repetition in

these stanzas may seem baffling; however, this repetition focuses the reader's attention on how time gets attenuated by extreme weather conditions, how it speeds up and slows down as we forget the recent past, even when the "100-year storm" comes two years in a row. In highlighting the tension between years of "plenté" and years of "derthe," time becomes both recursive and elastic. The stanzas' intentionally paratactic structure emphasizes the "and then and then and then" of weather hazards that, once seen as anomalies, have now become the new normal. When *The Simonie*-poet observes that nothing like this period of disordered weather has been seen in the previous thousand years, this observation may at first strike us as an exaggeration undertaken by poetic license, but it also conveys the lived experience of realizing that the scale of this natural disaster exceeds a single human life and can instead be measured across many generations, past and present. This is climate shift on a millennial scale, and this temporal foreshortening attempts to represent what it felt like to live in a period of climate chaos, where the past was felt to no longer predict the future with any certainty. To paraphrase the intellectual historian Reinhart Koselleck, the climate change present does not even predict the climate of the past any longer.[15]

Because complaints about the weather are relatively common in late medieval English literature, we may be tempted to dismiss *The Simonie*'s discussion of dearth and abundance as merely a conventional literary topos. Yet *The Simonie* is not just an example of a generalized *ubi sunt* lament, deploring the loss of yesteryear's good times. The poem documents medieval climate change insofar as it folds contemporary economic detail into a rhetorical analogy that compares the degradation of human relations to deteriorating environmental conditions. For *The Simonie*-poet, the betrayal of mankind's climate expectations feels similar to the poet's outrage at how each class betrays the social contract by failing to live up to estate obligations. More than analogy, there is a causal effect between social failings and the disordered weather. This consequence becomes apparent in the poet's discussion of the inflationary price of staple grains:

A busshel of whete was at foure shillinges or more,

And so men mihte han i-had a quarter noht yore

I-gon. (*The Simonie*, ll. 393–4)

[A bushel of wheat cost four shillings or more

So that men who might have had a quarter cartload previously

Now could not.]

The poet describes a usual way of measuring and buying grain: a quarter wagon load was the equivalent of eight bushels, so, at 4 shillings a bushel, the poet suggests that the post-dearth price of a quarter wagon load would have risen to 32 shillings. This price hike accords with both

the evidence of contemporary medieval chronicles as well as the work of economic historians, who have undertaken regional analysis of English manorial records for the period 1315–1322.[16] The poem's invocation of the rising price of grain serves as more than just a fortuitous confirmation of the work of modern agrarian historians, however. This poetic entreaty provides the local interpretive network in which such price inflation would have been understood by the English poet and his audience.

While economic history can tell us what happened to the prices of staples, it cannot usually tell us how people felt about these prices or, moreover, how they rationalized them. This is why a poem like *The Simonie* is just as necessary for our understanding of the stormy weather that marked the beginning of the Little Ice Age as the chronicles and manorial records that regularly recorded these events. According to the poem, price fluctuations are not just the result of weather fluctuations. Instead, bad weather patterns are, at root, the result of the collective actions of bad people, whose incorrigible sins cause an extended climate shift because one year of scarcity was not enough to teach humankind a lesson. The collective incorrigibility means that the divine punishment must happen repeatedly and over an extended period of time. For modern historians, the price hikes that occurred between 1315 and 1322 reflect a linear cause and effect process: dearth results in scarcity, which results in higher prices. An environmental cause has a predictable human effect. *The Simonie* suggests an alternative understanding of this causal relation: it depicts an ethical and environmental circuit rather than unidirectional causation moving from nonhuman causes to human effects. The poem offers us an environmental *annulus*, or ring, a relational network where humans' sinful behavior affects the climate and then climate change affects humans once more. Moreover, the poem offers a theory of premodern anthropogenic climate change—humankind is ultimately responsible for the ecological shift because of its inability to correct collective behavior over several cycles of scarcity and abundance. This is (hu)manmade climate change, even if it does not conform to the more familiar model of anthropogenic climate change caused by the burning of fossil fuels.

2. The Wind of 1362: Bionarrativity in the Little Ice Age

We see a similar environmental logic at work in other accounts of extreme weather in the fourteenth-century North Atlantic. The complex causal relationship between human action and the elemental world that we saw in *The Simonie* is also found in literary and historical descriptions of the medieval storm that came ashore in England and the Lowlands on January 25, 1362. The gale blew across Northern Europe for almost a week. In England, storm surges washed the coasts as high winds sank boats and destroyed buildings far inland, including the toppling of church towers in London, Bury St. Edmunds, and Norwich. Trees were uprooted; coastal farmland flooded; ports and wharves swept out to sea. While the death toll in England was not exceedingly high, the storm was responsible for at least 25,000 deaths in the Lowlands, where it came to be known in Old Frisian as "die Grote Mandränke," the great drowning of men.[17] The effects of this "furious wind" [*ventus vehemens*] were documented in many fourteenth-century English chronicles.[18] While some of these accounts content themselves with merely describing the storm's unusually destructive power, others put forward theories about what caused it. An extended description is provided by the so-called Anonymous of Canterbury chronicler, a historian concerned with documenting the middle years of the

fourteenth century. This chronicler emphasizes human culpability for the "great, terrible, and unprecedented wind" (*de uento terribili, inaudito et magno*):

In the year of Our Lord [1362] […] a public proclamation having been issued everywhere on behalf of the king that jousts would be held at Cheapside in London on Monday 17 January, (ostensibly against all comers, but inwardly and figuratively through [*figuratiue per infra*] the agency of the devil and his mother and the seven deadly sins), the great devil Satan sending in advance, as warnings, his evil angels and signs of his malice, on the Saturday before these jousts, […] around the hour of vespers on that day, dreadful storms and whirlwinds such as had never been seen or heard before occurred in England [*tempestates horribiles numquam alias uise uel audite et uentorum turbines in Anglia*].[19]

This chronicler feels about jousts the same way that my Southern Baptist mother feels about gambling and state-run lotteries. For the medieval chronicler, the monarch's jousts are a sign of human moral corruption, and this moral corruption, in turn, causes extreme weather events. Like the *Simonie*-poet, the chronicler repeatedly emphasizes the unprecedented nature of the storm, one whose like has not been seen or heard of in recent memory (*vento […] inaudito*; *tempestates horribiles numquam alias uise uel audite*). The exceptional nature of the storm prompts the chronicler to offer both literal and tropological (*figuratiue per infra*) readings of it: the storm was precipated, literally, by the king's call for joust participants and, figuratively, by diabolic forces. The storm's origins are at once physical and metaphysical, human, and beyond human. The chronicler concludes his account of the storm by pointing out that the storm is not only an effect of past human behavior, but also an omen of future calamities:

Many other extraordinary accidents are said to have happened at that time, in London and elsewhere; and the houses and buildings which were thus destroyed by this wind remained ruined and unrepaired because of the lack of workmen. Behold the wretched omens of these jousts, the harbingers of future evils [*Et ecce dictorum hastiludiorum signa pessima et malorum presagia futurorum*]! (118–19)

The storm is part of a complex semiotic circuit of past, present and future. If the jousts provoke the storm and the ensuing disordered weather foreshadows further misfortunes, the storm's wreckage lays bare a pressing concern in the chronicler's present: the effects of the ongoing labor shortage in the wake of repeated bouts of the Black Plague. Following the plague's first appearance in England in 1348, there was a significant decrease in workers and a concomitant increase in wages, a constrained market that resulted in the first national labor laws in 1351, which sought to fix wages at pre-plague rates and to limit workers from moving to other places in search of higher pay.[20] Preachers and moralists regularly complained about the scarcity of laborers and their "greed." If the 1362 storm is destructive, according to the Anonymous of Canterbury chronicler, so too is the cupidity of workmen unwilling to work for reasonable wages, a human ill that amplifies the storm's catastrophic aftermath. As a mode of pathetic appeal, the moralist's direct address—"*ecce* …!"—seeks to align the audience with the speaker's own ethical vision, one that sees the effects of human sin in the wreckage of the storm. For this chronicler, extreme weather events are both causal and deictic: they originate in the human world (jousts), but they also point to collective social problems that are otherwise difficult to

see either because they are abstract or because they originate in complex historical circumstances (the alleged greed and laziness of post-pandemic laborers). The storm is at once a retributive scourge, a contemporary commentary, and a sign of things to come.

While the Anonymous of Canterbury chronicler sees the storm as referencing specific social problems—Edward III's jousts, laborers' unwillingness to work—other contemporary responses to the storm imagine it as a signifier for broader moral laxity. This interpretation of the 1362 storm is featured in the popular fourteenth-century alliterative poem *Piers Plowman*. There, the allegorical character Reason preaches a sermon explaining that the recent storm was caused by human actions:

And the south-west wynd on Saterday at euen

Was pertliche for pride and for no point ellis.

Pyries and plum-trees were puffed to the erthe

In ensample, segges, that ye sholden do the bettre.

Beches and brode okes were blowen to the grounde

And turned upward here tail in tokenyng of drede

That dedly synne er domesday shal fordoon hem alle.

–*Piers Plowman*, B. 5. 14–20 (*ca.* 1370s)[21]

[The southwest wind of last Saturday evening

Occurred manifestly on account of pride and for no other reason.

Pear trees and plum trees were blasted to the earth

As an example, men, that you should live better.

Beech trees and broad oaks were blown to the ground

And their roots were turned upward as an omen of judgement

That mortal sin would destroy them all before Domesday].

Here the cause of the storm is not jousting but rather the more generalized sin of pride. The sin of pride is a constant concern throughout this part of the poem. In B.5, the dreamer describes

the "felde ful of folk" who have stopped working the Half Acre. Piers the Plowman admonishes them to return to their labor and to follow the virtuous lessons offered by Truth. The succeeding passūs clarify the human and economic costs of bad work: when Truth's lessons are forgotten, famine ensues. The evocation of the 1362 storm anticipates the poem's recurring metaphysical calculus that relates human labor, sin, natural disaster, and the resultant suffering. In the violence of the storm, we see the violence of a shared immorality and its justified collective punishment. Like the Anonymous of Canterbury chronicler, the *Piers* poet directly addresses his audience: "segges" (men), using the vocative to highlight the storm's lesson. The scale of causation differs in the two accounts: for the chronicler, the storm points us to specific responsible groups (the king and the unreasonable laborers); for the poet, all humanity are responsible for the storm and thus all suffer collectively.

The broader scale of causation in *Piers Plowman* is reflected in how the storm's message is conveyed: it is the natural world itself that serves as an example of appropriate human behavior. The uprooted trees teach the human world how to behave. Just as they are blown to the earth in a gesture of humble submission before their creator, so too should humans bow before the divine. In this analogy, there is an intentional confusion between animate and inanimate actors. While it is the human poet who summarizes the moral of the storm—the catastrophic consequences of pride—it is the uprooted trees that directly hale the human world. The providential storm becomes a giant mixer, a scourge that makes the nonhuman world model obedience to the divine will.

The intellectual historian Bruno Latour has likened this type of ontological mixing to a "Moebius strip," where we are "forced to *redistribute* entirely what had formerly been called natural and what had been called social or symbolic."[22] For Latour this Moebius strip is a hallmark of the Anthropocene, and yet in this fourteenth-century response to natural disaster, we see this redistribution well before. In both the chronicle and the poem, the storm is imagined to be an anthropogenic weather anomaly. As with the description of disordered weather discussed earlier in *The Simonie*, causation does not run straight from environmental cause to human effect in the accounts of the 1362 storm. Instead, a network of causation intertwines human and environmental agencies. These accounts of early Little Ice Age weather demonstrate that for contemporary writers, the meaning of weather hazards was generated through a circuit of interpretation rather than a linear set of expectations and connections.

For these reasons, it is important to include textual artifacts such as chronicle accounts and poems in our understanding of past weather events, not because we agree with their accounts of causation—whether illicit jousts or human pride—but because they demonstrate how weather disasters were seen to be part of this circuit of meaning making that did not run solely from natural cause to human effect. In a similar vein, Bruno Latour seeks to resist this teleological view by seeing the extreme weather event as containing an idea of narrative within itself:

The great philosophical contribution of the Anthropocene is that narrativity, what I call geostory, is not a layer added to the brutal "physical reality" but what the world itself is made of.[23]

While some may dismiss "geostory" as an annoying New Materialist neologism, Latour's term makes an important point about the physical world and the stories that get told about it.[24] Because the earth itself is an actor, narrative is not something that follows a physical event such as a storm but rather something that is co-created with it. While we need not embrace the term "geostory," the underlying idea of bionarrativity—the world's own narrating capacity—usefully conveys the tricky concept of how meaning relates to being by suggesting that narrative accounts of a storm can be something other than the semantic gloss we paint onto a disaster after it happens.

Since bionarrativity problematizes the idea of "natural forces" and "human actions," there would be no such thing as a "natural disaster" in the medieval and early modern periods because all environmental catastrophes would have human referents. Since human mischance was intimately connected to natural forces, whether sublunary or supernal, there was no purifying out the lines of causation. As we have seen, such bionarrativity is not, pace Latour, the hallmark of the Anthropocene. These Little Ice Age versions encourage us to re-examine our own assumptions about how ostensibly natural events (like storms) relate to the human world of meaning-making, the ways in which the environment itself speaks to us and narrates itself. Bionarrativity also encourages us to think more broadly about the kinds of materials that count as evidence in environmental history as well as the strategies that we bring to interpreting that evidence. Poems and chronicle accounts are useful (and even necessary) for seeking to explain past climate events and their societal impact, because such artifacts are not just "supplemental" human add-ons to a discrete and prior nonhuman event. Instead, they are an essential part of the local network in which the conditions of a thing's possibility exists and in which it is later interpreted.

3. Lightning in Church Lawton, 1652: Storm Time and Environmental *Prosopopoeia*

Thinking about extreme weather events and climate change through a bionarrative lens encourages us to pay special attention to the roles assigned to human and beyond human actors in premodern weather dramas. Such dramas can take place on stages of dramatically different sizes. The disordered weather that led to both the Famine of 1315 and the hurricane of 1362 affected large parts of the North Atlantic, including England, the Lowlands, and Germany. Other weather events can initially affect only a single community, but their impact can be amplified over time through successive renarrations. These more localized events can get refashioned into wider cautionary tales that take on eschatological significance. One such example is the seventeenth-century lightning storm that struck the small town of Church Lawton near Congleton in Chester in June 1652. We have multiple descriptions of the disaster that befell this market town in Northwest England, the most detailed being the eyewitness account written by the rector, Reverend Randall Sillito, who was conducting his usual Sunday service when the storm hit. He describes the effects of the storm in two almost identical letters addressed to neighboring ministers.[25] In both, the rector focuses our attention on the sounds of the storm:

I saw nothing but heard a noise towards the end of the church […] like the discharge of a musket, or rather the breaking of a granado [grenade]. There was at first no noise heard among

the people, but the cry of a dog, and presently the complaint of a boy crying out for his brother, there struck in the bell-house, together with ten more. I do not hear that any of them speak, or groan or stir, those that sat and lay being as though they had been asleep.[26]

The minister's account of this tragedy is curiously dispassionate: he continues with his service even as the magnitude of the tragedy slowly reveals itself. It is only at the end of the service that the churchgoers are able to calculate the true cost of the storm: eleven members of the congregation killed and many more injured.

Comparing several accounts of this storm reveals the bionarrativity of a premodern weather disaster, the ways in which the storm's aftermath uncovers a charged human-nonhuman circuit of meaning. Some accounts reflect on the storm's immediate aftermath, while others assign a wholly different meaning to it after the passage of some years. It is perhaps unsurprising that the meaning of the storm changes not just over time but with the storm's appearance in different genres. Something very different in private correspondence intended to be shared among ministers of neighboring parishes occurred than in a much later printed polemical treatise. More significantly, the meaning of the storm also changes based on the temporal scale, or interval, into which the storm is inserted and from which the storm takes its meaning. This interval changes the storm's moral and reimagines the bionarrative circuit in which it operates.

In Sillito's letters to two local ministers, the storm is "here" and "yesterday," the immediacy of the storm revealing a complex social network in and around Church Lawton. Each of the letters includes a list of the dead, not just their names but also their occupations. Among the dead are to be counted several colliers, blacksmiths, and servants, and the accounts detail the parish in which each dwelt as well as the names of employers (where known):

The names of those who fell by this mighty hand of God, were William Beech of Butlane [a webster] in Audeley parish, William Mearham [a collier] a youth of said parish of Audeley, Thomas Pool, Blacksmith living in Rode in Astbury parish, John Haughton servant in husbandry to widow Hancock of Rode aforesaid, Peter Capper servant in husbandry to Richard Merrill of Dawe green in Alsager within Bartomley parish; John Parker [a beggar lad] whose father liveth in or near your parish of Sandbach; Antony a lad born in Yorkshire and living in Westanton parish; Francis Lowe, carpenter, sojourner in Lawton, and John Pursell son of John Pursel of Lawton, Carpenter.[27]

What is revealed in the flash of lightning is a constellation of labor relations and mutual obligation, a network whose unexceptional nature usually renders it invisible. In this flash, we see the normally self-obfuscating priorities of the community: what widow will lose a servant? What gentry farmer an agricultural laborer? Beyond listing the occupations of servants and skilled artisans, the writer also pays conspicuous attention to worker mobility, remarking on the status of the "beggar lad" from a neighboring parish as well as the carpenter described as a "sojourner," a temporary resident working away from his home village. In doing so, this account of the storm dead is not just a neutral description of the storm's tragic aftereffects; instead, it reproduces the cultural logic of early modern attitudes toward labor. It is concerned not just with the use value of the dead men as laborers—their biopower—but with more

widespread anxieties documented elsewhere in vagrancy and poor laws that sought to curtail the movement of the unemployed as well as laborers who moved from place to place in search of employment.[28] The imagined interval of the storm—its temporal and geographical scale—determines its meaning, with the storm's wreckage accounted for not in uprooted trees and toppled steeples but in the costs to the social fabric of employers and laborers in Church Lawton.

If Sillito's reckoning of the dead shows us the local economic impact of the disaster, the moral that he draws from it gives us another picture of community and the collective responsibility that brought this disaster to Lawton. The rector's letter to the Reverend Henry Newcome concludes by noting that, among the dead, there were not to be found any "vicious livers" (17). The rector emphasizes that the dead were no more sinful than the survivors of the storm. This moral served as the centerpiece of the funeral sermon that the rector preached the day after the storm when they buried its eleven victims. Citing the text of Luke 13: 4–5, Sillito invokes the story of the tower at Siloam that killed several workers when it collapsed. These men, according to the biblical account, were no more sinful than any others who were to be found in Jerusalem. The biblical injunction is clear: unless you repent, you too shall be taken.[29] If the storm's fury is an instrument of God's providence, this providence is general rather than special, and the individual deaths were due not to individual causes but to the universal condition of mankind's sinfulness. By positioning the storm on the eschatological horizon, the rector makes an earthly storm speak the transcript of eternal biblical truths. On the playing field of this disaster, the deaths are exemplary, the guilt collective, and the responsibility shared.

The events at Lawton were deemed so wonderful and strange that, within a few months, they were circulating in a pamphlet published by the Protestant moralist Charles Hammond, entitled *A warning-peece for England*.[30] Hammond's *Warning-peece* is characteristic of the popular early modern "wonder pamphlet," a genre that, as Vladimir Jankovic describes in his study of early modern meteorology, documented "strange news": a parade of atmospheric anomalies that included extraordinary frosts, destructive whirlwinds, and devastating thunder and lightning.[31] These anomalies are examples of the "strange weather" that, in Steve Mentz's words, "often re-draws the boundaries between self and world and puts the body-nature relationship in crisis."[32] The early print market regularly traded in such weather prodigies: not just storms but rains of hail, blood, and frogs; so too stones shaped like crucifixes or imprinted with death's heads fell from the sky. In evoking this wonder, the storm narrative transforms weather from a singular impersonal event into a universalized personification. Hammond recounts a litany of strange weather and its aftereffects: church steeples blown to the ground by gales, livestock killed by floods, hailstones as big as eggs. Within this parade of atmospheric anomalies, the Lawton storm is martialed as the most extended example of how God ventriloquizes the weather:

The Lord hath a long time spoken to this sinfull Nation, by the voyce of the Gospell, and by his Ministers; which we not regarding, he now begins to speake loud to us, by the terrible voyce of Thunder and Lightning, which many places of this our Land hath of late felt. (A3v)

Where God was wont to speak through scripture, he now speaks in the voice of the weather. The favored trope of the storm moralist is *prosopopoeia*—the rhetorical figure that lends a

human voice to an inanimate thing. Early modern rhetoricians, such as George Puttenham, define the trope as "the counterfeit impersonation" that gives "any humane quality, as reason or speech to dombe creatures or other insensible things."[33] Paul de Man reminds us that the etymology of this figure contains its operation: the Greek *prosopon poien* is "to confer a mask or a face."[34] In this early modern account of the Lawton storm, the figure of prosopopoeia turns thunder and lightning into instruments that allow the immaterial world to communicate with the material one, establishing a "tin can telephone" connection between the metaphysical and physical worlds.

Hammond's account also foregrounds the uncanny way in which the natural world speaks to us even as the human world is silenced by the storm. Like Sillito's eye-witness account that observes, at the moment of the lightning strike, "there was no noise heard among the people," Hammond emphasizes the eerie stillness. He borrows, almost word for word, the language of the rector's letter, stating that "for they that were strucken dead, never groaned, nor spoke not a word before they dyed" (A3v–A4r). In Hammond's account, the violent voice of the storm contrasts with the voicelessness of its human victims, another side effect of early modern *prosopopoeia*. While the figure allows writers to take on the voices of other entities, it also has the potential to silence the human, to show that humans may just be prosopopoeias themselves.[35] The Lawton disaster reveals the human face to be a mask that hides a subject animated (or de-animated) by impersonal forces beyond it. In Latourian terms, the cataclysmic weather event becomes the solution in which a variety of actors, animate and inanimate, are all dissolved. The agential balance between human and natural worlds is inverted; thunder and lightning speak, while humans are rendered mute.

Like the rector's letter, Hammond's pamphlet was a relatively immediate response to the storm, coming just a few months after, though it situates the storm in different temporal and spiritual schemas. The pamphlet recounts the Lawton storm as one of a series of severe weather events that have occurred in the space of the last year, a year that, in Hammond's view, should rightly be called "a yeare of Wonder and Admiration, the like whereof hath not in any age béene known" (A3r). Writing in an eschatological vein, these prodigious disasters are, for Hammond, "nature's own testimony to the truth proclaimed in the bible."[36] Like the eye-witness account of Rev. Sillito, Hammond understands the storm to be divine judgement, but, in his account, it is a special rather than general providence at work:

The Foolish hath said in their heart (saith David) that there is no God; I am afraid, that in these sad and miserable times, that there are too many of such Opinions in this our Nation, that doe not stick to speake it openly, and say, that all things comes by Nature, and there is neither God nor Devil: but I desire all true Christians to beware of such Atheists; for though they shall not have the happinesse to see there is a God, yet they shall acknowledge one day, to their everlasting sorrow, that they then feel the powerfull hand of God in punishing of such Blasphemy. (A5v–A6r)

It is not all of sinful mankind who are to blame for these storms (as in Sillito's account), but a specific subset: the naturalist atheists. This heterodox group believes "that all things come by Nature, and [that] there is neither God nor Devil." While it is difficult to say for sure who the

intended target is—Lucretian materialists? Vulgar empiricists?—Hammond believes that it is these atheists alone who have caused the storm. Hammond's theory enacts an arresting *contrapasso*: God uses nature to send a warning to those who would amplify nature's powers at the expense of divine omnipotence. In this account, the lightning storm at Lawton could be ascribed to a more strictly Calvinist view of special providence, one described by Alexandra Walsham as being directed by the finger of an "assiduous, energetic deity who constantly intervened in human affairs."[37] If God can come down to flap the butterfly's wing, so too can he sling the thunder bolt. When juxtaposed with a year's worth of weather wonders, the meaning of the Lawton storm changes: it is now a specific warning against those skeptics who would be impertinent enough to doubt that God could come down and intervene in his own created order.

Yet another bionarrative emerges as the Lawton storm recedes in time. The moralist Hammond again alludes to the Lawton storm in a pamphlet written eight years later and entitled *The Worlds timely Warning-Peece*.[38] No longer content to warn just England—as in his 1652 *A warning-peece for England*—now he takes aim at sin in an eschatological context. Given the pamphlet's expanded moral quarry, the role of the Lawton storm changes; it is now referred to in passing as one of a series of supernatural meteorological events signaling the end of times:

Here in our nation, was there not great and strange things done, by thunder and lightning in 1652, in June and July, and many people destroyed by it, and houses and Churches fired and consumed by it, in severall parts of this land, And likewise it rained blood the twentieth of June 1653. at a place called Pool in Dorset-shire, which may fulfill the words of the Lord, which he speaks by the mouth of his Prophet Joel: I wil shew wonders in the Heavens, and in the earth, bloud, and fire, and pillars of smoak, as you may read, Joel. 3.2. where he speaks of the signs of the last day. (*The Worlds timely Warning-Peece*, 8)

The Lawton disaster is now part of Hammond's apocalyptic imaginary, a world view that links these disasters to recent wars, particularly what historians now refer to as the "first Anglo-Dutch war."[39] This extended series of naval encounters between Holland and England over trade policies took place between 1652 and 1654. In Hammond's 1660 pamphlet, the Lawton tempest is no longer merely another extreme weather event signifying the disorder of both natural and human worlds, it is now associated with the wars that presage the biblical Apocalypse. In a similar vein, the English royalist historian James Heath sees the Lawton storm as an omen that predicts subsequent military hostilities with Holland. The chronicler Heath interrupts his detailed narration of the naval skirmishes with this interpolation:

Just before, and at the entrance of War, several fore-running Accidents were taken notice of: in Scotland, a great Fire at Glasgow, which defaced that City, and did damage to the value of 100000 *l*. Congleton [i.e. Lawton] Church in Chester fired by Lightning, with 11 men killed thereby.[40]

In Heath's account as in Hammond's 1660 pamphlet, the voice of the storm "prognosticates" the coming war. If lightning and thunder had been signs of sin or religious dissent in previous

accounts generated in the immediate aftermath of the Lawton incident, now storms were seen to have their own foreign policy.

While historical distance and generic diversity partially explain the changed meaning assigned to the Lawton storm, it is also the changing interval of the storm, the temporal scales into which the storm is inserted by each writer, that affects its interpretation. Heath's chronicle is a royalist account of the Civil War, stretching from 1637 to 1663. The mention of the Lawton storm is impressed into this decades-long continuum as a sign of the regrettable but inevitable political conflict between England and Holland. This time frame is stretched even further in *The Worlds timely Warning-Peece*. The pamphlet's opening argues that his own society is living on borrowed apocalyptic time:

From Adam to the end of the flood was 1656 yeares: so from the first comming of Christ, to the second comming to judgment should then be near 1656, which time is past two years. And if you look into the Writings of men, who formerly writ concerning this day of the Lord, you shall find many notable things is prove, that it is near the time. (5)

Hammond reframes recent natural disasters by relocating them within the grand sweep of biblical time, identifying a symmetry between the period from the Garden of Eden to Noah's flood and then from that deluge to contemporary England. Recalibrating the temporal frame of the Lawton storm makes it at once a local and a global event, the harbinger of not just intra-English religious dissent but international conflict. Creating a temporal symmetry centered on Noah's flood makes the Lawton storm the endpoint of an epoch rather than just another event in a durable now. Just as the interval of the storm shifts from a discrete year (1652) to *Apocalypse Now* by way of Noah's ark, so too the storm's meaning is determined not solely by a writer's distance in time from it, but by the time scale into which the bionarrative is emplotted. The voices of the Lawton storm sometimes originate in the human world, sometimes in the beyond-human world. At times, they articulate the complexities of local labor networks; at other times, national religious conflict; and at still others, global apocalypse foreshadowed by international hostilities. In all of these narratives, the storm continues to speak long after its immediate victims are silenced.

4. Conclusion: Modernity and the Voice of the Storm

If the interval of the storm—yesterday, last year, back in Noah's day—changes with each renarration, how useful are literary and historical texts as witnesses to the extreme weather events that characterized the Little Ice Age? One potential way to think about these different accountings of storms, whether they take place in 1315, 1362, or 1652, is to imagine a singular physical event that is then given multiple, separate interpretations by writers with different agendas writing at different times. This is an eminently defensible reading. Seeing extreme weather events as moments of bionarrativity, however, encourages us to resist this defensible narrative, one that seeks to separate a nonhuman "natural" event from a "human" meaning subsequently attached to it, an inanimate efficient cause subsequently assigned a human moral. Bionarrativity instead asks us to dissolve this difference, to look at how both human and

nonhuman agents narrate the world. Bruno Latour discerns a principle of change common to all beings, animate and inanimate alike, a shared system of reference beyond human language:

What semiotics designates as a common trading zone—that is morphism—*is a property of the world itself* and not only a feature of the language *about* the world. […] Story-telling is not just a property of human language, but one of the many consequences of being thrown into a world that is, by itself, fully articulated and active. It is easy to see why it will be utterly impossible to tell our common geostory without, all of us — novelists, generals, engineers, scientists, politicians, activists, and citizens — getting closer and closer within such a common trading zone.[41]

Latour imagines a world that narrates itself with the help of a set of interdisciplinary human interpreters. What is this utopian vision of collaborative geostory if not giving a voice to nature? Latour does not mean that we should reduce the world to discourse, as some structuralists and almost all poststructuralists do. Instead, Latour points to change ("morphism") as a continuity between all human and nonhuman agents (and, for Latour, one does not need to be animate to be an agent). This space of change—the condition of *physis* is the condition of the world— is "the common trading zone."

One way to build this common trading zone is to trace the persistence of tropes, such as environmental prosopopoeia, a rhetorical figure favored by climate moralists over the course of the Little Ice Age. It might be tempting to think that prosopopoeia is just an antiquated literary device employed by long dead writers who did not understand the meteorological mechanics of natural disasters. Yet personification remains a favored tool of those seeking to reform behaviors that influence climate today. To take just one recent example, it surfaced in the 2019 Climate Action Summit sponsored by the United Nations and held in New York. This meeting is perhaps best remembered for the activist Greta Thunberg's impassioned plea for environmental action on behalf of the world's children. Another notable moment was the opening remarks of the Secretary-General of the United Nations, António Guterres:

Nature is angry.

And we fool ourselves if we think we can fool nature.

Because nature always strikes back.

And around the world, nature is striking back with fury.

Consider the last few months.

. . .

[he gives examples of recent heat records]

. . .

Our warming earth is issuing a chilling cry: Stop.[42]

The personification of nature ("Nature is angry, nature strikes back, nature cries") echoes the premodern tendency to personify largely invisible meteorological forces. While the message changes in response to different societal and material pressures, the desire to ventriloquize the storm remains urgent. In all of these instances—whether medieval chronicle accounts, early modern pamphlets, or the UN Secretary-General's comments on climate change—the voice of extreme weather exhorts collective action. The disaster's human referent becomes universalized, the totality of the body politic. We are all the cause and must, therefore, all be part of the solution.

This problem of collective action and responsibility is one of the central issues addressed by Amitav Ghosh in *The Great Derangement*. He argues that the Anthropocene condition is marked by the "environmental uncanny": the feeling that weather catastrophes "have no human referents at all," and yet they are "nonetheless animated by cumulative human actions." This type of direct causality, according to Ghosh, brands them as "the mysterious work of our own hands returning to haunt us in unthinkable shapes and forms."[43] Ghosh's compelling description of this sensation raises the question: how does the Anthropocene "environmental uncanny" differ from the premodern dialogic that I have been describing at work in the stories told about these three sets of storms—the sense that weather is the result of nonhuman forces even as humanity collectively has the power to breed weather catastrophe? For Ghosh, of course, the "cumulative human actions" are our carbon-loving, fossil fuel-burning, geo-politically incorrect lifestyles. In this way, modern weather stories often reproduce the narrative arc of premodern ones: in the moment of the storm, weather is experienced as an unknowable event over which we have no control even as the storms are believed to reflect human moral choices made at an earlier time.

Some may object that to speak of anthropogenic climate change before the Anthropocene is a perverse anachronism. Since humans were not significantly changing the global climate before we started burning massive amounts of coal, they would argue, we cannot speak of humanmade climate change prior to the nineteenth century. It is understandable that for many environmental historians and climate scientists interested in the stories that we tell about humanmade climate change, these stories only begin in the nineteenth century. And yet, as we have seen, people talked about anthropogenic climate change with surprising regularity long before the Anthropocene. Here is the challenge: we may no longer agree with the stories that earlier writers told about weather; however, if we do not take them seriously as evidence—as seriously as we take other paleoclimate proxy data, such as ice cores, tree rings, pollen, and coral counts—if we dismiss these writers' own lived experience and their philosophical convictions as mere false consciousness, we engage in a bizarre mode of historical repression. The premodern belief in collective responsibility for human-caused climate change only *seems* like analogy from the perspective of the Enlightenment. Humans long imagined a dialogic relation with the weather. It was only modernity, or, more specifically what Bruno Latour calls the "modern parenthesis," with its insistence on the regularity and knowability of nature—a rules-bound relation made possible by the separation of the human from the natural—that reimagined this relationship as unidirectional: active humans acting upon a patient nature.[44]

Returning to the voices of these premodern storms shows us that the stories that get told in the Anthropocene about anthropogenic climate change did not just appear *ex nihilo*. They were responding to a long tradition of stories about weather events that took humanmade climate shifts seriously, even if such stories had been rendered quaint by the "gradualist" weather narratives favored by a nineteenth-century geological science that framed meteorological changes as uniform, steady, and incremental. In this way, the stories that get told about the weather in today's Anthropocene are built out of preexisting bionarrative parts that already viewed climate as humanmade, as ventriloquized, and as political. What changes over time is the form and modes of participation and subjection, the extent and variety of causation. Across eras, the stories that we tell about the weather make it possible to think "the unthinkable," even as what is unthinkable changes in any given era. For pre- and early modern writers, what was difficult to think were shared patterns of agency and volition among human and divine actors. For modern writers, what is difficult to think is the "environmental uncanny," our own physically causal role in climate shifts that we feel powerless to stop. At any time, talking about the weather allows us to ask hard questions about where the human and the nonhuman start and stop, about what it means to hear voices in the storm. Both then and now, extreme weather events are seen to reflect earlier human moral choices. The lesson of both is ultimately the same: if we don't reform ourselves or our habits, then we must face the apocalyptic consequences. The danger, as articulated by medieval poets and chroniclers, early modern pamphleteers, and modern politicians, is that Nature's outraged voice, the voice of the storm, will go unheeded.

Notes

[1] The foundational work on designating the period from the latter part of the eighteenth century forward as the Anthropocene is Paul J. Crutzen and Eugene F. Stoermer, "The 'Anthropocene'," *Global Change Newsletter*, 41 (May 2000): 17-18.

[2] These works on climate change and its cultural impacts include Dipesh Chakrabarty, *The Climate of History in a Planetary Age* (Chicago: University of Chicago Press, 2021); Amitav Ghosh, *The Great Derangement: Climate Change and the Unthinkable* (Chicago: University of Chicago Press, 2016); Bruno Latour, *Facing Gaia: Eight Lectures on the New Climatic Regime*, translated by Catherine Porter (Cambridge UK and Medford MA: Polity Press, 2017); Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge: Harvard University Press, 2011); and Anna Lowenhaupt Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (Princeton: Princeton University Press, 2015).

[3] While Ghosh briefly cites writers of mid-twentieth century speculative fiction, such as Raymond Bradbury and Phillip K. Dick, critics have questioned Ghosh's overall assertion that it is only the realist novel set in the historical present that can take on the challenges of depicting the effects of climate change. In particular, Jesse Oak Taylor and Ursula Heise have questioned Ghosh's unwillingness to countenance genres such as magical realism, surrealism, or more recent climate fiction ("cli fi"); see Jesse Oak Taylor, "The Work of Fiction in an Age of Anthropogenic Climate Change: Review of Amitav Ghosh's *The Great Derangement*," *b20*, January 31, 2018, https://www.boundary2.org/2018/01/jesse-oak-taylor-the-work-of-fiction-in-an-age-of-anthropogenic-climate-change-review-of-amitav-ghoshs-the-great-derangement/; and Ursula Heise, "Climate Stories: Review of Amitav Ghosh's *The Great Derangement*," *b20*, February 19, 2018, https://www.boundary2.org/2018/02/ursula-k-heise-climate-stories-review-of-amitav-ghoshs-the-great-derangement. A list of earlier "serious fiction" that "takes seriously" the issue of climate change would include the works of authors such as Margaret Atwood, Octavia Butler, Ursula LeGuin, and Kim Stanley Robinson. To

this list could be added the many works published in the last decade, including Paolo Bacigalupi's *The Water Knife*; *The Broken Earth* trilogy by N. K. Jemisin; Barbara Kingsolver's *Demon Copperhead*; Ben Lerner's *10:04*; and Ghosh's own 2019 *Gun Island*.

[4] Ghosh, *The Great Derangement*, 9.

[5] Ghosh follows the work of climate scientists who locate the origins of human-caused climate change in the nineteenth-century with the effects of the Industrial Revolution. Some environmental historians, by contrast, have assigned its origin to the early seventeenth-century's period of global exploration and colonial conquest, where European contact with North and South American peoples (beginning *ca*. 1610 CE) caused decreases in global atmospheric carbon as a result of genocide, enslavement, and warfare. On the so-called "Orbis spike," see, for instance, S. L. Lewis, and M. A. Maslin, "Defining the Anthropocene," *Nature* 519 (2015): 171–180. On the alternate dates of 1452 and 1610 for the beginning of the Anthropocene, see Kathryn Yusoff, *A Billion Black Anthropocenes or None* (Minneapolis: University of Minnesota Press, 2018), as well as Yusoff's more recent elaboration in *Geologic Life: Inhuman Intimacies and the Geophysics of Race* (Durham: Duke University Press, 2024).

[6] For the climate science of the Little Ice Age in Europe, foundational works include a series of articles by Hubert Lamb that were revised and published as *Climate, History, and the Modern World*, 2nd rev. ed. (London: Routledge, 1995); and Emmanuel LeRoy Ladurie's *Histoire Humaine Et Comparée Du Climat, vol. 1 Canicules Et Galciers, Xiiie-Xviiie Siècle* (Paris: Fayard, 2004). For more recent work, see n. 8 below.

[7] Jago Cooper and Payson D. Sheets, *Surviving Sudden Environmental Change: Understanding Hazards, Mitigating Impacts, Avoiding Disasters* (Boulder: University Press of Colorado, 2012), 13.

[8] More recent work on climate includes Wolfgang Behringer, *A Cultural History of Climate*, translated by Patrick Camiller (Cambridge: Polity Press, 2010); Richard C. Hoffman, *An Environmental History of Medieval Europe* (Cambridge: Cambridge University Press, 2014), 318–341; Brian Fagan, *The Little Ice Age: How Climate Made History, 1300-1850* (New York: Basic Books, 2000); and Anthony McMichael, "Little Ice Age: Europe, China, and Beyond," in *Climate Change and the Health of Nations: Famines, Fevers, and the Fate of Populations* (New York: Oxford University Press, 2017); online edn, Oxford Academic, 12 Nov. 2020, https://doi.org/10.1093/oso/9780190262952.003.0013.

[9] For a discussion of this comet as an omen, see William Chester Jordan, *The Great Famine: Northern Europe in the Early Fourteenth Century* (Princeton: Princeton University Press, 1996), 23.

[10] For an overview of paleoarcheological evidence relevant to this period, see Martin Bauch, "The Dantean Anomaly (1309–1321): Rapid Climate Change in Late Medieval Europe with a Global Perspective," in *Mittelalter. Interdisziplinäre Forschung und Rezeptionsgeschichte* 1 (2018): 92–103, http://mittelalter.hypotheses.org/12108. For dendrochronological analysis of this period, see Seung H. Baek, Jason E. Smerdon, George-Costin Dobrin, Jacob G. Naimark, Edward R. Cook, Benjamin I. Cook, Richard Seager, Mark A. Cane, and Serena R. Scholz, "A Quantitative Hydroclimatic Context for the European Great Famine of 1315–1317," *Communications Earth & Environment* 1, no. 19 (2020): 1–7. https://doi.org/10.1038/s43247-020-00016-3. For analysis based on stalagmite and sediments, see Hsun-Ming Hu, Chuan-Chou Shen, John C. H. Chiang, Valerie Trouet, Véronique Michel, Hsien-Chen Tsai, Patricia Valensi, et al, "Split Westerlies Over Europe in the Early Little Ice Age," *Nature Communications* 13, no. 1 (2022): 4898 (1–7). https://doi.org/10.1038/s41467-022-32654-w.

[11] The best overview of this period is Jordan, *Great Famine*.

[12] Three extant versions of the poem exist, the earliest of which appears as the last item in the well-known Auchinleck manuscript (Advocates 19.2.1), a miscellany professionally produced in a London workshop in the

1330s. Based on linguistic and textual evidence, the poem's editors hypothesize that the poem was composed in the East Midlands in the early to mid-1320s; see Dan Embree and Elizabeth Urquhart, editors, *The Simonie: A Parallel-Text Edition*, Middle English Texts 24 (Heidelberg: Carl Winter, 1991), 25. Subsequent citations refer to this edition. A concise summary of the poem within its satiric tradition can be found in James M. Dean's TEAMS edition, "Introduction: Poems Against Simony and the Abuse of Money," in *Medieval English Political Writings* (Kalamazoo: Medieval Institute Publications, Western Michigan University, 2002), 179-83. Critics have proposed various relationships among the three versions; John Finlayson argues that the latest version found in the Peterhouse MS is an intentional re-writing of the earlier two versions; "*The Simonie*: Two Authors?" *Archiv für das Studium der neueren Sprachen und Literaturen* 226 (1989): 39–51.

[13] Thomas W. Ross, "On the Evil Times of Edward II, a New Version from Ms Bodley 48," *Anglia-Zeitschrift Für Englische Philologie* 75 (1957): 173–93, 186–87 n. 119.

[14] Modern English translations are my own unless otherwise noted.

[15] Reinhart Koselleck, *Futures Past: On the Semantics of Historical Time*, translated by Keith Tribe (New York: Columbia University Press, 1985).

[16] Summarizing the work of previous economic historians, Ian Kershaw notes that the average price of a quarter wagonload of wheat selling for 8 s. in Fall 1315 rose to more than 26 s. by the summer of 1316; "The Great Famine and Agrarian Crisis in England 1315–1322," *Past & Present* 59 (1973): 3–50, 8. For the government's attempt to regulate these prices, see Buchanon Sharp, "The response of Edward II and his government to the great famine," in *Famine and Scarcity in Late Medieval and Early Modern England: The Regulation of Grain Marketing, 1256–1631* (Cambridge: Cambridge University Press, 2016), 33–55.

[17] Hubert Lamb and Knud Frydendahl, *Historic Storms of the North Sea, British Isles and Northwest Europe* (Cambridge: Cambridge University Press, 1991), 16–17.

[18] Thomas Walsingham, *Historia Anglicana*, edited by Henry T. Riley, 2 vols., Rolls Series (London: Longman Green, 1862–1864), 1: 296. One of the most extended accounts is found in the chronicle of the Anonymous of Canterbury discussed below: *Chronicon Anonymi Cantuariensis: The Chronicle of Anonymous of Canterbury, 1346–1365*, edited and translated by Charity Scott Stokes and Chris Given-Wilson, Oxford Medieval Texts (Oxford: Clarendon Press, 2008), 118–19. The note to that passage also mentions further references to the storm: *Knighton's Chronicle, 1337–96*, edited and translated by G.H. Martin (Oxford: Oxford University Press, 1995), 184; *The Anonimalle Chronicle, 1333–1381*, edited by V.H. Galbraith (Manchester: Manchester University Press, 1927), 50; and the *Eulogium Historiarum*, edited by F.S. Haydon 3 vols., Rolls Series (London: Longman Green, 1822–87), 3: 229.

[19] Latin and English translation from the *Chronicle of Anonymous of Canterbury*, edited and translated by Stokes and Given-Wilson, 118–119. Subsequent references refer to this edition.

[20] The pioneering work of Bertha Havens Putnam is the foundation for most subsequent work on these laws; see *The Enforcement of the Statutes of Labourers during the First Decade after the Black Plague* (New York: Columbia University Press, 1908). More recent work includes Chris Given-Wilson, "Labour in the Context of English Government," in *The Problem of Labour in Fourteenth-Century England*, edited by James Bothwell, P.J.P. Goldberg, and W.M. Ormrod (York: York Medieval Press, 2000); Anthony Musson, "Reconstructing English Labour Laws: A Medieval Perspective," in *The Middle Ages at Work*, edited by Kellie Robertson and Michael Uebel (New York: Palgrave Macmillan, 2004), 113–32;W.M. Ormrod, "The English Government and the Black Death of 1348–9," in *England in the Fourteenth Century*, edited by W. M. Ormrod (Woodbridge, Suffolk: Boydell & Brewer, 1986), 178–79; and Kellie Robertson, *The Laborer's Two Bodies: Labor and the 'Work' of the Text in Medieval Britain, 1350–1500* (New York: Palgrave Macmillan, 2006).

[21] William Langland, *The Vision of Piers Plowman: A Critical Edition of the B-text*, edited by A.V.C. Schmidt (London: Everyman, 1995). This passage appears almost verbatim in all three major recensions of the poem (compare A. 5. 14–20 and C. 5. 116–122), though it is the allegorical figure of Conscience, rather than Reason, preaching in the A-text.

[22] Latour, *Facing Gaia*, 120 (emphasis original).

[23] Bruno Latour, "Anthropology at the Time of the Anthropocene: A Personal View of What Is to Be Studied," in *The Anthropology of Sustainability: Beyond Development and Progress*, edited by Marc Brightman and Jerome Lewis (New York: Palgrave Macmillan, 2017), 35–49, 43. Dipesh Chakrabarty advocates for something similar in his model of "geohistory"; see "The Climate of History: Four Theses," *Critical Inquiry* 35 (Winter 2009): 197–222.

[24] Critics of Latour's political ecology have voiced concern that endowing inanimate things with agency leads to a depoliticization of complex social issues. See, for instance, Andreas Malm, *The Progress of This Storm* (London: Verso, 2018), 119-156. Geostory, in my opinion, does not depoliticize the issue of climate change; rather, it makes visible the problem of agency that attends it, whether in the premodern period or in the Anthropocene.

[25] Correspondence relating to the storm is published in *Local Gleanings: An Archaeological and Historical Magazine chiefly Relating to Lancashire & Cheshire*, edited by J.P. Earwaker, (Manchester: J.E. Cornish, 1879–1880), 1: 13–18. References to letters from Reverend Sillito to his local correspondents refer to this edition. Newcome was a neighboring minister at Gawsworth and this letter from Sillito was later printed in Newcome's autobiography. The editor of *Local Gleanings* argues that the other letter was addressed to the Rev. Joseph Cope, who, while not named, was at that time the vicar of Sandbach, a neighboring town identified with the minister in Sillito's letter. The effects of this storm were also mentioned by the prolific diarist John Evelyn; I'm grateful for this reference to Madeline Bassnett, whose database *Weather Extremes in England's Little Ice Age, 1500-1700* collects notices of early modern climate events (https://weather-extremes-in-englands-little-ice-age-westernu.hub.arcgis.com/).

[26] Letter of Rev. Randall Sillito to the Rev. Henry Newcome, June 25, 1652 (*Local Gleanings*, 16). This description appears almost verbatim in Sillito's letter to the Rev. Joseph Cope (*Local Gleanings*, 14–15).

[27] Letter of Rev. Randall Sillito to Rev. Joseph Cope, June 25, 1652 (*Local Gleanings*, 15–16). Details added in brackets are taken from the almost identical list found in a letter to the Rev. Henry Newcome, which includes the names of the remaining two dead: "John Hall, blacksmith" and "William Brereton, servant."

[28] Seventeenth-century vagrancy has been the subject of much analysis by both historians and literary scholars. See, for instance, A.L. Beier, *Masterless Men: The Vagrancy Problem in England 1560–1640* (London: Methuen, 1985); A. Slack,"Vagrants and Vagrancy in England, 1598–1664," *Economic History Review*, 2nd ser., 27, no. 3 (1974): 360–79; Barry Taylor, *Vagrant Writing: Social and Semiotic Disorders in the English Renaissance* (Toronto: University of Toronto Press, 1991); Linda Woodbridge, *Vagrancy, Homelessness, and English Renaissance Literature* (Urbana: University of Illinois Press, 2001); and, more recently, David Hitchcock, *Vagrancy in English Culture and Society, 1650–1750* (London, Bloomsbury, 2016).

[29] In the King James Version, the text of Luke 13: 4–5 reads: "4. Or those eighteen, upon whom the tower in Siloam fell, and slew them, think ye that they were sinners above all men that dwelt in Jerusalem? 5. I tell you, Nay: but, except ye repent, ye shall all likewise perish." Jesus' point here is that all should repent, because all are guilty.

[30] Charles Hammond, *A warning-peece for England by that sad and fearefull example that hath happened to men, women and children, all sorts of cattle and fowles, by stormes, tempests, hail-stones, lightning, and thunder, June 25, 1652* ([Smithfield]: Printed for Richard Burton, [1652]).

[31] Vladimir Janković, *Reading the Skies: A Cultural History of English Weather, 1650–1820* (Chicago: University of Chicago Press, 2000), 36 ff. See also Lorraine Daston and Katherine Park, *Wonders and the Order of Nature* (New York: Zone, 1998).

[32] Steve Mentz, "Strange Weather in *King Lear*," *Shakespeare* 6, no. 2 (2010): 139–152, 140.

[33] George Puttenham, *The Art of English Poesy*, edited by Frank Whigham and Wayne A. Rebhorn (Ithaca: Cornell University Press, 2007), 324.

[34] Quoted in Barbara Johnson, *Persons and Things* (Cambridge: Harvard University Press, 2010), 12.

[35] Gavin Alexander makes a similar point in his discussion of Milton in his excellent analysis of early modern prosopopoeia: "prosopopoeia allows its users to adopt the voices of others; but it also has the potential to show them that when they think they are speaking in their own person, they are prosopopoeias themselves"; in "Prosopopeia: The Speaking Figure," in *Renaissance Figures of Speech*, edited by Sylvia Adamson, Gavin Alexander, and Katrin Ettenhuber (Cambridge: Cambridge University Press, 2007), 97–112, 107.

[36] B.W. Ball, *A Great Expectation: Eschatological Thought in English Protestantism to 1660*, Studies in the History of Christian Thought 12 (Leiden: Brill, 1975), 110. Hammond is only briefly discussed by modern scholars as an example of mid-seventeenth century eschatological writing, when he is discussed at all. On this early modern tradition of eschatological writing more generally, see Warren Johnston, *Revelation Restored: The Apocalypse in Later Seventeenth-Century England*, Studies in Modern British Religious History 27 (Woodbridge, Suffolk: Boydell Press, 2011).

[37] Alexandra Walsham, *Providence in Early Modern England* (Oxford: Oxford University Press, 1999), 2.

[38] Charles Hammond, *The worlds timely warning-peece: newly corrected and amended. This being the third time presented or sent to these three nations, England, Scotland, and Ireland; describing the nearnesse of the day of the Lord, by the signes and tokens that our Saviour told his disciples should come to passe, before the last day. Being a dismall looking-glasse for the false prophets of these times to look into, which invent false imaginations, out of their own proud phantasticall brains, to deceive the simple* (London: Fr. Grove, at his shop on Snow-hill, near the Sarazen's head, 1660).

[39] According to Hammond: "Nation shall rise against Nation; and Kingdome against Kingdome. For this we now see, for nation against nation war justly be meant, between Holland and us; for all the rest of the World are Kingdoms and under the government of Monarchy; yet all in a posture of War one against another, and like to continue, except the Lord be more mercifull to us" (*The worlds timely warning-peece*, 6).

[40] James Heath, *Chronicle of the Late Intestine War in the Three Kingdoms of England Scotland and Ireland* (London: Printed by J.C. for Thomas Basset, [1676]), 315.

[41] Bruno Latour, "Agency at the Time of the Anthropocene," *New Literary History* 45 (2014): 1–18, 13 (emphasis original).

[42] António Guterres, "Remarks at 2019 Climate Action Summit, 23 September 2019," accessed 10 February 2024,

<https://www.un.org/sg/en/content/sg/speeches/2019-09-23/remarks-2019-climate-action-summit>

[43] Ghosh, *The Great Derangement*, 32.

[44] Bruno Latour, "An Attempt at a 'Compositionist Manifesto,'" *New Literary History* 41, no. 3 (2010): 471–90, 476, 485.