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Shannon Garner-Balandrin

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Pathetic *Kairos* and Prophecy in a Shakespearean Anthropocene

SHANNON GARNER-BALANDRIN

The birth of the Anthropocene is measured from two vasty deeps: the ice core of the Antarctic and the subterranean sea floor. The earth-shifting events of the late medieval and early modern period provided one potential nativity for this new human-dominated geological epoch. Simon L. Lewis and Mark A. Maslin, in their 2015 article “Defining the Anthropocene” in the journal *Nature* describe that the definition of the Anthropocene as a formal geologic unit of time “requires the location of a global marker of an event in stratigraphic material, such as rock, sediment, or glacier ice, known as a Global Stratotype Section and Point (GSSP), plus other auxiliary stratigraphic markers indicating changes to the Earth system” (173).¹ These GSSPs, known as “golden spikes,” are the “preferred boundary markers” (173) of geologic eras. The golden spike proposed by Lewis and Maslin to mark the beginning of the Anthropocene is a significant dip in atmospheric carbon dioxide between 1570 and 1620 documented in two Antarctic ice core records.

This stratigraphic data point, centered on the year 1610, is named the “Orbis spike” as it emerges from the unprecedented global contact between the Americas, Europe, Africa, and Asia in the early modern period. The dip in atmospheric carbon dioxide—still visible in the ice core—is proposed as the consequence of the deaths of up to 61 million people in the Americas: destroyed through exposure to disease, violence, enslavement, and famine. Lewis and Maslin note that the sharp reduction in farming and fire use resulted in the regeneration of over 50 million hectares of forest and grassland—enough to pull a noticeable amount of carbon dioxide from the atmosphere: a veritable “world of sighs” (*Othello* 1.3.183).² The other defining stratotype is the appearance of plant species from the Americas in European sediments. Pollen, particularly from New World native maize, is well preserved in European marine and lake sediments dating from 1600 onwards. This residue of the Columbian Exchange remains within the stratigraphic layers of the sea floor.³

The 1610 date that Maslin and Lewis propose is enticing to early modern scholars as it stages the beginning of the Anthropocene in the very midst of Shakespeare’s playwriting career. The Anthropocene begins as *The Tempest*—with all of its New World influences—is preparing to voyage onto the early modern stage. Just as the “golden spikes” used to date the beginning of geological epochs provide evidence of irreversible change to the global environment, Shakespeare’s work might easily be called a golden spike for a new literary era. His oeuvre

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irreversibly changed the global landscape of literary culture (bardolatry included) and remains a particularly visible layer in the bedrock of western literature.

The evidence that shapes the proposed start date of the Anthropocene seems gleaned from the themes, tropes, and strategies of early modern romance. Wrestling narratives from the past by plumbing these inaccessible places feels like the work of sorcerers and spirits, not geographers and scientists. In imagining the depths of a glacier, or a golden dusting of ancient pollen trapped in the layers of the sea floor we, like Ariel in *The Tempest*, “. . . tread the ooze / Of the salt deep, / [. . .] run upon the sharp wind of the North, / [and do] business in the veins o’ the’ Earth / When it is baked with frost” (1.2.302-6).⁴ The most reliable scientific evidence for human global impact resides in the very place that occupied the early modern imagination of the incorporeal inhuman.

One of the defining features of the Anthropocene is that human action becomes filtered through global networks of human and nonhuman elements: so much so that deeply buried strata of ice, rock, and oceanic sediment bear the marks of our movements and decisions. That human movements and fates would cause these effects is both absolutely logical and utterly bizarre. The oddity emerges from a resistance to pathetic fallacies between humans and the environments within which they are inexorably entangled. If something is rotten in the state of Denmark, it is far more likely the result of poor land management than the inner psychology of its ruling family. Yet in the narrative traditions both inherited and developed by the early modern period—in romances, hagiographies, histories, and chorographies—the land actively responding to human action is a persistent poetic trope.

This tension between human culpability in environmental change and the poetic exaggeration of ecological response is on display in the interaction between Glendower and Hotspur in part one of *Henry IV*.⁵ In this scene, Glendower boasts, “I can call spirits from the vasty deep” (3.1.55) to which Hotspur retorts, “Why, so can I, or so can any man, / But will they come when you do call for them?” (3.1.56-7).⁶ In some ways, Glendower has the last laugh. The spirits of the past, through the measurable evidence of the Orbis spike, did come when called from the deep—from the bottom of the ocean and from the furthest extremities of the world. Yet the basis of this scene from *Henry IV* is Hotspur’s mockery of Glendower’s self-importance. Glendower introduces himself as the catalyst for an impressive ecological display:

[. . .] At my nativity
The front of heaven was full of fiery shapes,
Of burning cressets, and at my birth
The frame and huge foundation of the Earth
Shaked like a coward. (3.1.13-17)

Against the Welsh leader’s insistence that fiery shapes in the heavens and earthquakes accompanied his birth, Hotspur contends that the earth and sky exhibit their own agency and do not serve to mark Glendower as extraordinary. Current critiques of the term “Anthropocene” echo Hotspur’s rebuke of

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anthropocentricism. However, experiencing this moment in the midst of palpable climate change, including induced seismicity and the ecological effects of light pollution, it is hard not to see the quaking ground and unnatural skies as delayed consequences rather than fearful portents.

Shakespeare's plays offer a range of both environmental pathetic fallacies and anthropocentric skepticisms. Through scenes with romance elements, Shakespeare wrestles with the relationship between human action and environmental response. Glendower and Hotspur both use romance-inflected language to calibrate human subjects as remarkable within a nonhuman world. Recounting Mortimer's heroic single combat with Glendower, Hotspur borrows from romance hyperbole, declaring that after the warriors drank from the river, "swift Severn's flood [. . .] / affrighted with their bloody looks, / Ran fearfully among the trembling reeds, / And hid his crisp head in the hollow bank / Blood-stained with these valiant combatants" (1.3.103-6). Hotspur's poetic description of the trembling and routing river Severn matches Glendower's boast that the Welshman's birth caused the very foundations of the Earth to "shake [. . .] like a coward" (1.3.17). The river's expressive response similarly adds weight to Hotspur's claim of Mortimer's fierce loyalty. Mortimer and Glendower both take in the liquid body of the Severn as they drink, and from their "mouthèd wounds" (1.3.99) their blood pours into the river. With the intermingling of these two essential liquids, Hotspur makes the river another mouth to speak for Mortimer. When rivers change course, constellations morph, and the foundations of the earth move, human actions become sedimented in geologic time.

Glendower and Hotspur both use poetic pathetic fallacies in order to make social claims of power, bravery, and efficacy. Both of the scenes they describe employ natural elements as witnesses to contested events. Hotspur's relation of the heated battle between Mortimer and Glendower to the skeptical king uses the ecological and cultural clout of the Severn river to bolster Hotspur's account. By crafting his argument this way, Hotspur implicitly acknowledges that large natural bodies—rivers, mountains, oceans, etc.—are granted a kind of authority. Precedent for this kind of natural authority occurs in multiple works of early modern literature: such as Spenser's marriage of the Thames and the Medway in *The Faerie Queene* and the many sovereign rivers coursing through Michael Drayton's *Poly-Olbion*, including the Severn as a watery queen. English and Welsh rivers in particular are commonly anthropomorphized as longstanding ruling figures. Hotspur argues:

[. . .] To prove [Mortimer] true
Needs no more but one tongue for all those wounds,
Those mouthèd wounds, which valiantly he took
When on the gentle Severn's sedgy bank. (1.3.97-100)

Hotspur recruits Mortimer's body and the river body of the Severn to be proof in his account. King Henry IV in this exchange is the skeptic, and does not take the anthropomorphized response of the river or the report of Mortimer's wounds as

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adequate evidence of the earl of March's fight with Glendower. The king declares to Hotspur:

Thou dost belie him, Percy; thou dost belie him.
He never did encounter with Glendower.
I tell thee, he durst as well have met the devil alone
As Owen Glendower for an enemy. (1.3.116-9)

King Henry IV dismisses Mortimer's loyalty, the Severn's anthropomorphized response, Mortimer's wounded body, and a meeting with the devil as all equally unlikely. In a scene devoid of present human witnesses, Hotspur attempts to evoke a response in the king through the pathos of the river. When Hotspur's poetic gesture is rejected his fury is not that his ecological tableau is not believed, but that Mortimer's loyalty is still in doubt. For Hotspur, the Severn embellishes his account through literary tradition, but is not an integral part of his philosophy.

Glendower, on the other hand, sounds out his version of truth and knowledge almost solely from the natural world. After Hotspur's mockery of his claims, he insists that Hotspur give him leave "To tell you once again" (3.1.38-9) that his birth was accompanied by fiery shapes in the heavens, goats running from the shaking mountains, and other signs that have "marked [him] extraordinary" (3.1.43). Glendower's pointed repetition insists that unlike Hotspur, his use of pathetic fallacy in the natural world is not a poetic gesture, but part of his worldview. Glendower asks:

Where is he living, clipped in with the sea
That chides the banks of England, Scotland, Wales,
Which calls me pupil or hath read to me?
And bring him out that is but woman's son
Can trace me in the tedious ways of art
And hold me pace in deep experiments. (3.1.46-51)

Shakespeare's use of "woman's son" prefigures the riddle given to Macbeth by the witches' apparitions: "Laugh to scorn / The power of man, for none of woman born / Shall harm Macbeth" (4.1.90-3).⁷ Glendower scorns the power of man as he believes there is no one who has either taught him or could match him in his "deep experiments." He boasts both of his natural abilities and implies that his skills are learned from the nonhuman—with no "woman's son" to match him he is a pupil of the magical and natural world of early modern romance.

While Glendower values sympathetic responses from the environment, he is distrustful of permanent human alterations. Hotspur's description of the river Severn's responsive movement is in contrast with his practical desire to change the course of the river Trent when he, Glendower, and Mortimer discuss their divisions of land on the map. Hotspur sees the river as a smug barrier that comes "cranking in" (3.1.102) to "rob" (3.1.109) him of the best of his land. When Hotspur declares he will dam it and place a new channel so that the river "shall not wind" (3.1.108), Glendower is perplexed, "Not wind? It shall, it must"

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(3.1.110), and pointing to the map, “You see it doth” (3.1.110). To Glendower, the river’s sovereign place is incontrovertible unless some portentous event compels it to move on its own. The map is a fixed reflection of this reality. In this moment Glendower, for all his superstitious bluster, reveals a desire for a corresponsive relationship with the environment. The Welsh leader, like a would-be Prospero, wishes to be the lead actor in an ecomaterial play—eliciting clamorous responses from the ground and a spectacle of the skies, but no actual change. In contrast, the skeptical Hotspur is a patient and far more potent log-man, redirecting rivers and physically manifesting change in the landscape and on the map. Hotspur’s anthropomorphization of the river as a thief only adds to his narrative of anthropocentric dominance over the environment.

Shakespeare’s histories and tragedies, dotted with romance, exhibit the tensions between the desire to enter into a heroic kinship with the land and the uneasy consequences of real human impact. Pathetic fallacies, like other kinds of anthropomorphization, are often seen as a problem in ecocritical scholarship. However, Jane Bennett argues that “maybe it is worth running the risks associated with anthropomorphizing (superstition, the divinization of nature, romanticism) because it, oddly enough, works against anthropocentrism: a chord is struck between person and thing, and [the human is] no longer above or outside a nonhuman ‘environment’” (120).⁸ It doesn’t occur to Glendower to modify the landscape. For him, the ecological features of Wales, especially its rivers, stand with him to repel hostile intrusions. He brags to Hotspur, “Three times hath Henry Bolingbroke made head / Against my power; thrice from the banks of Wye / And sandy-bottomed Severn have I sent him / Bootless home and weather-beaten back” (3.1.67-70). The two Welsh rivers are secure elements while the power of the weather is conscripted into Glendower’s local force.

Glendower is the representative of an outdated romance description of England and Wales. Taken more seriously in earlier sources, Glendower in *Henry IV* is a comically tragic figure made to stand in for a “balladmonger” (3.1.134) past. Hotspur’s biting wit is the voice of an exasperated and practical upper-class soldier made to deal with an interloper from the wrong genre. The “skimble-skamble stuff” (3.1.158) that makes up Glendower’s philosophy is zoomorphic as well as allegorized. Glendower’s belief in Merlin and his prophecies, and in the multilayered importance of moldwarps, ants, dragons, fish, griffins, ravens, lions, and cats posits the human amongst a vibrant network of political and ecological beings. Glendower not only allies himself with the natural, but he reads the nonhuman as an extended augury: an archive of prophetic knowledge. While Glendower’s sorcery is laughable in that he makes use of the natural world to make himself seem more learned and formidable, it is ironic that the evidence for the beginning of the Anthropocene is drawn up from similar depths. In tracing ways to chart the contours of the Anthropocene, we may profit from being Glendower’s pupil in “tedious ways of art / And [. . .] deep experiments” (3.1.50-1) by paying closer attention to ants, moles, and ravens, and in calling knowledge from the foundations of the earth.

The Anthropocene, as Steve Mentz and others have expressed, encourages a proliferation of new terms and categories.⁹ The many ‘cenes,

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including the Capitalocene, Homogenocene, Thalassocene, and the Naufragocene all gesture toward a moment of narrative change—a breakdown of the usual ways to explain or express concepts and a desire to correctly name the impossibly multifaceted story within which we find ourselves. Amongst these new terms, I offer my own formation. Within the Anthropocene and looking back toward premodern literatures, a rethinking of the concept of the pathetic fallacy as it pertains to the environment is necessary. John Ruskin’s 19th century term attributes human emotion or responses to nonhuman entities. The pathetic fallacies of Romantic era fiction in general work to generate a mood that reflects the protagonist’s inner emotional state.¹⁰ In premodern narratives the pathetic fallacy is often employed in order to mark human action as historically significant: rivers move in the wake of extraordinary hand-to-hand combat and the earth shakes at portentous human births. These sorts of pathetic fallacies occur most often as interloping romance moments in stories of human impact: histories, tragedies, and hagiographies.

Rather than ‘pathetic fallacy,’ these moments of timely emotional entanglements I term *pathetic kairos*, or the emotional-material response between human and nonhuman that marks an event meaningful. *Kairos*, translated as the “fullness of time; the propitious moment for the performance of an action or the coming into being of a new state”¹¹ is a rhetorical concept that influenced the Sophists and the Aristotelian schools of thought. *Kairos* is both temporal and spatial; it merges both material action and persuasive performance. Richard B. Onians, in a 1951 etymological study, traces the concept back to two early associations: archery and weaving.¹² *Kairos* refers to both the perfect moment when an arrow may be loosed to hit a target and the crafted opening when the shuttle may be passed through the woof and warp threads of the loom. Hunter W. Stephenson notes that eventually, “the temporal aspect of *kairos* comes to dominate its spatial aspect: the “space” of *kairos* becomes the space in which the discursive performance occurs” (5).¹³ The concept of pathetic *kairos* allows for a space wherein human action slips into the discursive and performative nonhuman world.

Kairos adds this singular temporal, spatial, and performative aspect to the concept of literary pathetic fallacies. These moments—particularly in early modern narratives—call for more than anthropomorphization: they require a nonhuman acknowledgement of human impact within a particular space and time. These nonhuman responses, used as poetic devices, attempt to fix a person’s deeds within the geologic record, to make the nonhuman a witness, and to highlight an important emotional, ethical, and material exchange between human and nonhuman entities.

Pathetic *kairos* is a pertinent concept for the Anthropocene. In a geologic timespan, the Anthropocene is a narrow but important gap wherein human interactions have evoked a global ecological response powerful enough to imprint into the vasty deeps of the lithic record. Additionally, the story of the Anthropocene, as a story of human impact, may be read as a history or tragedy, punctuated by romance moments of co-active elemental engagement. *Pathos* is an important part of literary ecological response: earth, trees, rivers, and skies in

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premodern stories most often react with an emotion such as fear, anger, or adoration. Within the Anthropocene, we may no longer imagine nonhuman responses as merely reflective of human experience. As seen from a non-anthropocentric perspective, these elemental reactions may or may not be characterized by a form of nonhuman emotion.

Glendower's desire to let it be known that the natural world reacted spectacularly to his birth is a desire for pathetic *kairos*. In his telling, his natal entrance opened a particular temporal space within a unique ecological moment that allowed the earth and heavens to respond with a performance of recognition. Glendower's birth was made *momentous*—a moment noted among other spans of time—through the emotive and material actions of nonhuman forces. Hotspur's dismissal of Glendower's boast is a dismissal of the timeliness of Glendower's birth. When he jests, "Why, so [the earth would have shook] / At the same season if your mother's cat / Had but kittened, though yourself had never been born" (3.1.18-21) he denies not only the pathetic response of the earth, but also denies Glendower the particular action that sets him as distinct in the monolithic slab of nonhuman time.

Both Glendower's pretensions and Hotspurs' admonitions are re-written in a different *kairotic* mode in *Macbeth*. The pathetic responses between human and nonhuman are co-influencing: Macbeth's actions are prompted by the predictions of the witches and their assemblages of thunder, foul air, and indeterminate corporeal matter. The earth and climate of Scotland in the play reacts with pathetic *kairos* to the murder of Duncan but is also susceptible to timely ecological change forcibly enacted when Macduff hews the bulk of Birnam Wood.

When the witches vanish on the heath, Banquo and Macbeth marvel at their composition. Banquo posits, "The earth hath bubbles, as the water has, / And these are of them" (1.3.82-3) while Macbeth notes they disappeared, "Into the air, and what seemed corporal melted, / As breath into the wind" (1.3.84-5). When Glendower insists that at his birth the "heavens were all on fire; the Earth did tremble" (3.1.25), Hotspur quips:

O, then the Earth shook to see the heavens on fire,
And not in fear of your nativity.
Diseased nature oftentimes breaks forth
In strange eruptions; oft the teeming Earth
Is with a kind of colic pinched and vexed
By the imprisoning of unruly wind
Within her womb, which, for enlargement striving,
Shakes the old beldam Earth and topples down
Steeple and moss-grown towers. At your birth
Our grandam Earth, having this distemp'rature,
In passion shook. (3.1.26-36)

Hotspur's crudely humorous deflection of Glendower's ominous delivery is remarkably similar to the serious description Lennox gives of the night Macbeth murders Duncan:

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The night has been unruly. Where we lay,
Our chimneys were blown down and, as they say,
Lamentings heard i' th' air, strange screams of death,
And prophesying, with accents terrible,
Of dire combustion and confused events
[. . .] Some say the Earth
Was feverous and did shake. (2.3.61-9)

In *Macbeth*, the vasty deeps bubble forth catalytic prophetic spirits and the earth visibly reacts to human deeds. In *Henry IV*, Hotspur is meant to echo the audience's skeptical reading of events: that Glendower's earthquake is the result of geologic bodily distress, not the human endeavors that invoke a pathetic *kairos*. *Macbeth's* moments of environmental response, in contrast, leave the audience certain these events should be read as meaningful and timely.

The sickness of the feverous earth in *Macbeth* is a psychosomatic emotive and moral response: a physical recoiling against the regicide. It is also a viral response—Macbeth is parsed as the sickness infecting Scotland's political body and physical landscape. Macbeth is an anthropogenic force that not only contaminates the ecology of the play but who also unearths ecological toxins by his *kairotic* presence. Gwilym Jones notes that the “colic’ and ‘unruly wind’, as well as aligning Hotspur’s speech with Lennox’s ‘feverous’, points towards a fear arising from the meteorology of earthquakes” (100).¹⁴ Gesturing towards S.K. Heninger’s study, Jones reminds that earthquakes in the early modern period were dreaded not only for their shaking, but for the potential infectious airs they might release from the deep.¹⁵

Modern climate change has reinvigorated this fear. Global warming has accelerated the release of methane gas previously trapped in permafrost regions of the Arctic. These bubbles, emerging from the earth and underneath the ice, are derived from existing methane stores and from degrading biomass—what seemed corporeal is melted and now being released into the air. According to aquatic ecosystem ecologist Katey Walter Anthony of the University of Alaska Fairbanks, “a molecule of methane traps 25 times as much heat as carbon dioxide, and as the Arctic’s tundra thaws, more than 10 times the amount of methane that’s already in the atmosphere will come out of its millions of lakes.”¹⁶ If that happens, she states, “the earth will get much, much hotter than it is now.” Videos of Anthony piercing the ice crust of an Alaskan lake and igniting the escaping methane gas in a geyser of flame are as terrifying as any threats of the Weird Sisters.

The storm that occurs the night of Duncan’s murder—most likely the meteorological work of the Weird Sisters—adds voice to the nonhuman elements responding to the Macbeths’ actions. The climatic winds of the storm and earthbound air released are shaped into voices who prophesy, “with accents terrible, / Of dire combustion and confused events” (2.3.65-7). The difference between what the audience is told of the pathetic *kairos* of Glendower and Macbeth is that Glendower’s spirits and ecological responses *signify*, while Macbeth’s *prophesy*. The voices from the vasty deeps of the Scottish play—the

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escaped winds and corporeal bubbles—are combustible. They do not just mark a person as noteworthy in the geologic timescale, but they work to heat up the Macbeths' ambition and place them into a precarious moment of ecological and political doom.

The carbon deposits existing in the Arctic permafrost have been likened to a geological time bomb.¹⁷ Nearly 1,700 billion tons of organic carbon is stored within the permafrost soil in Arctic and sub-Arctic regions and more is contained below the Arctic Ocean's continental shelves (subsea permafrost carbon). As the earth warms, the permafrost will thaw. Once it thaws, preserved microbes in the once frozen soil will begin to convert carbon stores of bio matter into carbon dioxide and methane, adding to the anthropogenic atmospheric increase in these greenhouse gasses. The emission of permafrost carbon into the atmosphere creates a global carbon cycle feedback that will increase global temperatures. While the rate of change is still up for debate, most scientists agree that the permafrost carbon feedback is irreversible within human time scales.¹⁸

The carbon material waiting to be released from the warming permafrost is an exotic mélange of ancient plants and animals. The Permafrost Tunnel Research Facility, excavated from 1963 to 1969 by the U.S. Army Corps of Engineers, offers a glimpse into this ecological archive.¹⁹ The walls of the tunnel protrude with mammoth bones, skulls, preserved grasses and other oddments from a living past. As the redoubled toil and trouble of modern fossil-fueled industry continues to heat the world's atmosphere, the permafrost and thermokarst lakes begin to bubble with prophetic fumes like the witches' cauldron in *Macbeth*. The bio matter that infuses the cauldron's potion: bits of reptiles, mammals, insects, exoticized and mummified human body parts, and even items that reflect what might be frozen in the permafrost—"scale of dragon" (or ancient creature), "tooth of wolf," and "maw and gulf / Of the ravined salt-sea shark" is heated up until it is able to impact the future (4.1.10-36). As the permafrost begins to melt the long-term effects of the carbon feedback exchange are indefinite. We, like Macbeth, are at an odd historical moment—asking for answers from encounters with elements from inhospitable places.

The prophetic apparitions that appear from the witches' grisly ecomaterial stew move from epitomizing anthropocentric hubris to incrementally becoming more hopeful and more ecologically coexistent. The first apparition is a disembodied armed head with the powers of telepathy—the perfect symbol of patriarchic, martial, and colonizing anthropocentric power. The head, devoid of body, is severed from animal kinship and lopped off the top of the Renaissance concept of the great chain of being. Bodiless, but encased in a helmet and imbued with the power of speech and thought the head is a symbol of militarized Cartesianism. The second apparition, the bloody child, is the clue to Macbeth's eventual defeat by the cesarean-section-born MacDuff, but also evokes an uncertain human future begun in violence and sustained without ready nourishment. Unlike the other two visions which seem to appear instantly, Macbeth describes the entrance of the third apparition, "a Child Crowned, with a tree in his hand." He indicates the apparition "rises like the issue of a king" (4.1.99) growing up from the cauldron like a tree. The child's regal circlet is also tree-like—

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akin to the crown of a royal oak, “the round / And top of sovereignty” (4.1.100-1). The child with a tree in his hand is a more hopeful replanting of the royal line and may hint at a more sustainable ecological co-existence.

The new growth envisioned by the arboreal-figured child may be the one mitigating factor dampening the effect of the permafrost carbon feedback loop. As the permafrost thaws, it is likely that new growth will be encouraged to take over the newly arable region. Dynamic models put forth by earth scientists suggest that plant carbon uptake may in part mitigate the permafrost carbon release. When Birnam Wood, or a new forest of trees, shrubs, and grasses, comes to the Arctic, the carbon emissions from the permafrost region may be offset for a few years. However, with continued warming from fossil fuels and other sources, the microbial release of carbon will eventually overwhelm the balancing efforts of the new plant matter. Global warming will again be exacerbated by what comes forth from the vasty deeps of the polar landscape.

The Weïrd Sisters and arctic methane gas—corporal bubbles of the earth each—are harbingers of an uncertain reign. Macbeth encounters the witches on the blasted heath. Scientists and adventurers encounter the gas bubbles on the pocked ice sheets of the warming tundra. Like the Scottish thane, we are given some of the details of the end of the story. Some elements are fixed. Macbeth will be king, Banquo’s children will reign, the world will grow hotter, the ice caps will continue to melt—yet it is impossible to know all of the when or how.

We know that ultimately the Anthropocene may look much like a tragedy, and the name makes us its protagonist. The Anthropocene has the very real possibility of ending badly—worse than any corpse-littered Elizabethan stage. Current predictions indicate that the trajectory of global warming will make much of the earth uninhabitable. Millions of species will die out, polar ice caps will melt, coastal cities will become submerged, and resources will become scarce. While we all, as *anthropos*, are the protagonists of this story, the term threatens to homogenize the unevenness of the Anthropocene experience. The slow violence of climate change is felt most keenly by indigenous populations and other historically oppressed and underprivileged communities. Assigning literary tragedy to these communities is problematic because it implies a tragic flaw and the need for catharsis and self-introspection. Even if we were able to denote a blanket human ‘we’ for an Anthropocene tragedy, it is unsustainable to imagine ourselves as tragic protagonists without a sense of nihilism. Literary tragedy, especially Shakespearean tragedy, is for its lead characters a finite narrative. It ends with the realization of self-inflicted disaster (or shortly after with a quick and violent coda).

Macbeth’s quandary is much like our own: what to do with prophetic knowledge in a time of pathetic *kairos*? (All hail the Anthropocene!) For Macbeth, the knowledge is troubling because it “Cannot be ill, cannot be good” (1.4.144). The prophecies are fair, but they come from a foul source. With his new title as Thane of Cawdor, the prophecies begin to prove themselves true thus launching Macbeth into a crisis of stasis over action. Must he act in order to fulfill the prophecy, or will chance crown him “without [his] stir” (1.4.159)? Scientific data, made accessible to the inhabitants of the United States, seems to have a similar effect. Hearers are distrustful of the source of the information. Data, as fact,

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cannot be ill or good, but the implications of that information suggest catastrophe. As scientific predictions begin to come true, citizens of the Anthropocene in America question what they should do or if their actions are meaningful at all. For Macbeth, and for inhabitants of the Anthropocene, “Present fears / Are less than horrible imaginings” (1.4.150-1).

Perhaps what is at the heart of the conflict between those in the U.S. who are engaged in minimizing human impact on climate shift and global ecologies and those who deny climate change is a question of genre. Within tragedy, the genre of prophecy elicits responses of anxiety over belief and action. Repeaters of prophecy rarely convince the skeptical no matter how fervently they speak. In the literary genre of tragic prophesy, the ironic twist is never revealed until just before the protagonist’s doom. The cultural bones of shared story have given us a sense of prophetic trepidation. Yet, like many others, I suggest that hybrid genres that offer new combinations of responses may help to guide us toward a potentially more hopeful Anthropocene. *Macbeth’s* tragedy is Macduff’s romance and tragic prophecies may be re-read as romance riddles. Riddling prophecies offer what look like impossibilities, yet their solutions are often practical. The predictions emerging from the vasty deeps suggest what may come as the Anthropocene unfolds.

Macbeth misreads the riddle of Birnam Wood much like Glendower’s initial incomprehension of Hotspur’s desire to move the river Trent. Just as the river is a fixed landmark on Glendower’s map and world, Birnam Wood is an immovable force in Macbeth’s. Macbeth dismisses the pathetic *kairos* that would induce the wood to uproot, “That will never be. / Who can impress the forest, bid the tree / Unfix his earthbound root?” (4.1.108-10). The answer to this riddle is ‘anyone with an axe,’ yet within the ecologically emotive world of the play, a heroic engagement that might allow Macduff to entice the forest to action is not out of the question. The ending of *Macbeth* combines both the pathetic *kairos* of Glendower and the practical ecological interventions of Hotspur. Macbeth’s hubris allows him to disregard both. Living in the Anthropocene is living within an uncertain hybrid genre of tragedies, marvels, and scientific riddles to solve. Forests, permafrost sediments, and ice shelves may become unfixed and human ecological impact is legible in the long history of geology as well as the rift of the axe blade. The Anthropocene may require a return to more literary responses to ecological change before the hurly-burly’s done.

Notes

1. Simon L. Lewis and Mark A. Maslin, “Defining the Anthropocene,” *Nature*. Vol. 519, (March 15, 2015), 171-180.

2. William Shakespeare, *Othello* in *Folger Digital Texts*, eds. Barbara Mowat, Paul Werstine, Michael Poston, Rebecca Niles (Washington, D.C.: Folger Shakespeare Library, Simon and Schuster, 2004).

3. See also Simon L. Lewis and Mark A. Maslin, “A transparent framework for defining the Anthropocene Epoch,” *The Anthropocene Review*. Vol. 2, (August 1, 2015), 128-146.

Pathetic Kairos

4. William Shakespeare, *The Tempest* in *Folger Digital Texts*, eds. Barbara Mowat, Paul Werstine, Michael Poston, Rebecca Niles (Washington, D.C.: Folger Shakespeare Library, Simon and Schuster, 2004).
5. William Shakespeare, *Henry IV, Part I* in *Folger Digital Texts* eds. Barbara Mowat, Paul Werstine, Michael Poston, Rebecca Niles (Washington, D.C.: Folger Shakespeare Library, Simon and Schuster, 2009). Hereafter cited parenthetically in text with act, scene, and line numbers.
6. This line echoes an earlier verbal missive of Hotspur's. In response to the king's demand regarding the war prisoners, Hotspur states, "An if the devil come and roar for them, / I will not send for them" (1.3.127-8). This statement is Glendower's in reverse: if the devil calls for Hotspur, he will not come when he calls.
7. William Shakespeare, *Macbeth* in *Folger Digital Texts*, eds. Barbara Mowat, Paul Werstine, Michael Poston, Rebecca Niles (Washington, D.C.: Folger Shakespeare Library, Simon and Schuster, 2004). Hereafter cited parenthetically in text with act, scene, and line numbers.
8. Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, N.C.: Duke University Press, 2010).
9. Steve Mentz, "Enter Anthropocene, Circa 1610," *Anthropocene Reading: Literary History in Geologic Times*, eds. Tobias Menely and Jesse Oak Taylor, (University Park, P.N.: The Pennsylvania State University Press, 2017), 43-58.
10. John Ruskin, "Modern Painters" (New York, N.Y.: John Wiley, 1852).
11. "kairos, n.," OED Online. January 2018. Oxford University Press.
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13. Hunter W. Stephenson, *Forecasting Opportunity: Kairos, Production, and Writing* (Lanham, M.D.: University Press of America, 2005).
14. Gwilym Jones, *Shakespeare's Storms* (Manchester, U.K.: Manchester University Press, 2016).
15. S.K. Heninger, *A Handbook of Renaissance Meteorology: with particular reference to Elizabethan and Jacobean Literature* (Whitefish, M.T.: Literary Licensing, LLC, 2011).
16. Katey Walter Anthony, Aquatic Ecosystem Ecologist, Associate Professor, Water and Environmental Research Center (WERC), University of Alaska Fairbanks. YouTube video by Megan Otts and Todd Paris. Ed. Megan Otts. University of Alaska Fairbanks Marketing and Communications. 2010.
17. Michaeleen Doucleff, "Is There A Ticking Time Bomb Under the Arctic," *National Public Radio Morning Edition*, January 24, 2018.
18. Edward Schuur et. al., "Climate Change and the Permafrost Carbon Feedback" *Nature*. 520 (April 9, 2015): 171-179.
19. Permafrost Tunnel Research Facility, *US Army Corps of Engineers*.
www.erdc.usace.army.mil.

Shannon Garner-Balandrin is received her Ph.D. from Northeastern University. Her interests are in eco-materialism, Shakespeare, and early modern romance. She has a forthcoming chapter on *Poly-Olbion* to be published by the Oxford University Press as part of the *Early Modern Literary Geographies* series. Her work on early modern women beekeepers is also appearing in a special issue of *Medieval Feminist Forum* on "Women's Arts of the Body." Her scholarship emphasizes the ways in which ecological matter is implicated in questions of gender, agency, and history.