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ARTICLE

## Geomediations in the Anthropocene: Fictions of the Geologic Turn

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In both literature and philosophy, geologic matter has been imagined as a vector of extending perception and analysis into the territory of not only the nonhuman, but also the non-living, challenging the very distinctions between life and non-life, agile and inert matter. Recently, the debates over the concept of the Anthropocene amplified our fascination with the geologic, bringing into view the inescapable bond of human and Earth's history. The article probes the possibilities of the geologic turn through two short stories published in the era of the Anthropocene debates—Margaret Atwood's 'Stone Mattress' (2013) and A.S. Byatt's 'A Stone Woman' (2003). The stories' interest in a geologic setting, their staging of human-mineral intimacies, and their geologically-infused aesthetics position these two stories as fictions of the geologic turn. I examine how these writers—through reconfiguring the relations between bios and geos, human and non-human—forge alternatives to an extractive relation to the geos, as well as refuse to accept the figure of Earth as either an inert object or a victim. In this reframing, they also exemplify feminist critique of the imagined unity of 'Anthropos' that is named by the Anthropocene thinkers.

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**Keywords:** geologic turn; anthropocene fiction; Atwood Stone Mattress; Byatt Stone Woman

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But in a stone, the image [...] is an immortal witness, recorded for a long period of time: forever, measured against the brief human season.

Roger Callois, *The Writing of Stones* (Caillois, 1985: 100)

Feminism, today, facing the extinction of the human, should turn neither to man nor to woman: both of these figures remain human, all too human.

Claire Colebrook, *Sex after Life* (Colebrook, 2014: 16)

In his essay on Baudelaire, Walter Benjamin mentions the eccentric practice of nineteenth-century flaneurs that involved bringing a pet turtle for a stroll through the arcades (Benjamin, 2003: 54). He later relegates this example to footnotes, as if unsure of what to do with it.<sup>1</sup> Yet, it seems evident that emulating the speed of the turtle in the midst of the dramatic acceleration of city life brought forth by the industrial revolution was a counter-cultural practice that involved rejecting this speed by slowing down to a pace that is not simply pedestrian and anachronistic, but altogether nonhuman—the turtle being a gateway into reptilian temporality that belongs to an alternate evolutionary era. The reptilian gaze stages a contrast between Paleolithic forms of life (dwelling in caves built by nature) and the industrial age in which human environments are engineered and climate controlled (the arcades of nineteenth-century Paris). In the history of philosophy, the figure of the reptile has often served as a signifier of temporal contrasts and aberrations.<sup>2</sup> In 2014, the reptile is again evoked by philosopher Etienne Turpin in an essay on the land art of Robert Smithson, an American artist famous for his work that incorporated earth and rocks into framed compositions called ‘non-sites.’ In his analysis of Smithson’s piece in which a centerfold image of Venus is surrounded by reptiles, Turpin situates the latter as messengers from the deep past, symbolizing the infinitely slow, deep time of the geologic transformation and tectonic upheaval—the immemorial time that exceeds human grasp. Turpin writes, poetically:

[T]hese reptilian figures, while popularly associated with the legacy of the Jurassic period, also witnessed events corresponding to the politics of the earlier Triassic age (250–210 million years ago). They saw the slow but decisive break-up of Pangaea into the two supercontinents, Laurasia and Gondwana, evidence that any form of stable unity is a fiction undone by the viscous earth (Turpin, 2013: 178).

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<sup>1</sup> In the *Arcades Project*, the example appears in the footnotes.

<sup>2</sup> For Zenon—an ancient Greek philosopher famous for his paradoxes of infinity—the tortoise exemplifies infinite (infinitely divisible) time and space as it always arrives to the destination, paradoxically, before its speedy rival—the hare—catches up. Leo Bersani in *The Freudian Body* talks of ‘reptation’—a slow and viscous reptilian consciousness as a mental state that, he argues, is most congenial to pure thought (Bersani 1986).

The ancient reptilian gaze in the centerfold both beckons and issues a demand: an echo of the epoch long-gone, it summons us via an ancestral call demanding that we confront, as Turpin puts it, 'the myth of human progress in the Anthropocene' (Turpin, 2013: 178).

In his recent book evocatively titled *Stone: An Ecology of an Inhuman*, Jerome Cohen asserts the radical intimacy of bios and geos, human and stone. He writes: 'Stone is primal matter, inhuman in its duration. Yet, despite its incalculable temporality, the lithic is not some vast and alien outside. A limit-breaching intimacy persistently unfolds' (Cohen, 2015: 2). Following in the footsteps of Manuel DeLanda's *One Thousand Years of Nonlinear History*, Cohen's book then offers an infusion of geology into cultural history (medieval studies) that is fecund: stone is firmly positioned as a primordial dwelling, a substratum of life, a habitat, a weapon, a medium of memory, and the final resting place of the human. Cohen's stone reverberates with echoes of time immemorial—it is 'a communication device that carries into distant futures the archive of the past otherwise lost' (Cohen, 2015: 3). Both Turpin's reptilian gaze and Cohen's stone are marked by a time scale that exceeds human grasp: the deep time of geology. Attempting to rethink and, to some degree, undo the human through a turn to geology, these texts exemplify the geologic turn in cultural theory, a shift marked by a renewed attention to geologic deep time (represented in the stratigraphic column) and the use of geology as an explanatory matrix.<sup>3</sup>

The discovery of deep time (in a strict geological sense) is attributed to James Hutton (Hutton, 1795)—a geologist who, by studying nonconformities in Scotland, discovered the rock cycle of uplift and erosion, followed by subsidence and sedimentation—while the term itself was introduced by John McPhee in his *Basin and Range* (McPhee, 1998). Hutton's discovery improved geologists' capacity to read the record of Earth's processes, resulting in the image of Earth as an active, continuously moving force that constantly recycles its matter. The stratigraphic column—the concrete image associated with geology's view of time—was established by 1800, fossils

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<sup>3</sup> The authors of *Making the Geologic Now*, for instance, propose to treat 'the geologic as a source of explanation, motivation, and inspiration for cultural and aesthetic responses to conditions of the present moment' (Ellsworth and Kruse, 2013: 6).

becoming key elements for correlation between various strata and geological epochs. The discovery of deep time prompted the development of evolutionary theory, as well as dramatically changing the very sense of what it is to be human on the ancient earth. As a result, the nineteenth century, as Rosalind Williams demonstrates, can be viewed as a geological century, dominated by the rapid development of stratigraphic knowledge, as well as the proliferation of various forms of excavation and digging: massive infrastructure building projects (canals, tunnels, underground transit, sewage systems), mining, and archeological digs that uncovered remnants of ancient civilizations. The depth of the nineteenth century is twofold: digging or drilling deep into Earth's core connotes a triumph of technology (creating subterranean environments without nature); yet, it also signifies communion with nature's ultimate truth (a pit as an ultimate storage of nature's memory). Central to the nineteenth-century intellectual project is the idea that 'the earth's inner space may no longer be regarded as sacred, but is still a repository of spiritual value because it is assumed to hold the secrets of lost time. In this archive is imprinted the story of the origins of man, of the globe, even the galaxy' (Williams, 2008: 24).

What is at stake, then, in the contemporary geologic moment? What prompted the deep turn of the twenty-first century, with contemporary cultural theorists recovering and remediating nineteenth-century texts on geology (with James Hutton and Charles Lyell becoming household names in the humanities and arts), as well as rediscovering more recent examples of geological obsessions, such as the largely forgotten Roger Callois's *The Writing of Stones* or Robert Smithson's abstract geology? And what does it mean, to use Mark McGurl's expression, 'to plumb the depths of deep time?' (McGurl, 2012: 534) In contrast to the extraction-oriented nineteenth-century geological thought, the new geologic turn calls for a non-anthropocentric perspective in an era when climate change, as well as widely distributed, fast and slow environmental violence, prompts vast extinctions and ecosystem collapse moving the planet 'beyond safe operating spaces' (Yusoff, 2017: 28). More broadly, the new geologic turn indexes a shift in cultural discourse in the aftermath of Paul Crutzen and Eugene F. Stoermer's call in 2001 to name a new geological era as the Anthropocene (Crutzen and Stoermer, 2000). Implied in the concept of the Anthropocene is a

collision of two temporalities, a shallow temporality of the extraction-consumption cycle (of fossil fuels, for instance) and deep geological time: the time it takes for the earth's processes to produce or replenish its resources (measured in millions, sometimes billions of years). A source of energy and value subject to extraction and deployment in the present, deep time comes into view as a figure of immemorial debt and subsidy, on which humanity depends. As Will Steffen *et al.* put it, we are dealing with 'a massive energy subsidy from the deep past to the modern society' (Steffen, Crutzen and McNeill, 2017: 17). The current extractionist regime—which Elizabeth Povinelli refers to as 'the carbon imaginary'—can be seen as borrowing, or receiving a subsidy, not only from the deep past, but also from the deep future (Povinelli, 2016: 37). For instance, the short time of uranium enrichment and use exists in stark contrast with the time of its decay (uranium-238's half-life cycle is 4.5 billion years, roughly the current age of the planet). Central to Anthropocene-era discussions is an impulse to imagine our way out of the carbon imaginary, by showing the instability of the life/non-life ontological divide and by insisting on the interconnectedness of human and planetary history.

Yet, despite the attention it once again receives, the geologic remains elusive: to quote geologist and science historian Stephen Gould, 'Deep [geologic] time is so alien that we can really only comprehend it as a metaphor' (Gould, 1988: 3). Anthropologist Richard D.G. Irvine notes, similarly, that geologic time 'cannot be apprehended purely on an abstract level; understanding emerges on a phenomenal level ... it is something that impacts people on the level of experience' (Irvine, 2014: 164). Bringing the geos into focus is a work of mediation (hence the need for a reptilian intermediary), and is to a large degree the domain of the fictional and the metaphorical. In what follows, I probe the possibilities of the geologic turn through two short stories published in the era of the Anthropocene debates, Margaret Atwood's 'Stone Mattress' and A.S. Byatt's 'A Stone Woman.' These stories feature female protagonists who struggle with traumatic memories and find unexpected solace in geologic matter—in fossils and rocks. In Atwood's story, a retired physiotherapist is confronted by the memory of a sexual assault as she embarks on an Arctic cruise in northern Canada, a land rich in geologic history. In Byatt's story, the protagonist

starts to mysteriously transform into stone as she grieves for her mother's death—but not in the way one might expect. The stories' interest in a geologic setting, their staging of human-mineral intimacies, and their geologically-infused aesthetics position them as fictions of the geologic turn. I examine how these writers—through reconfiguring the relations between bios and geos, human and nonhuman—forge alternatives to an extractive relation to the geos, as well as refuse to accept the figure of Earth as either an inert object or a victim.

Elsewhere, I have written about the affordances of the geologic turn for writing about postcolonial histories (Ivanchikova, 2017). Here, prompted by the Anthropocene debates, I explore contemporary writing that exemplifies feminist critique of the imagined unity of the 'Anthropos' that is named by Anthropocene thinkers. In her *Sex after Life*, Claire Colebrook writes: 'As the human race hurtles toward extinction, primarily as a result of annihilating its own milieu, we feminists might respond by saying, "I told you so"' (Colebrook, 2014: 7). Since its inception, many feminist, Marxist, and indigenous scholars have questioned the concept of the Anthropocene as well as the uncritical use of 'we' in statements about the imagined ecological impact of humanity as a whole, pointing out the specific political, racial, cultural, and economic formations that enable exploitation of nature, as well as exploitation of humans.<sup>4</sup> Atwood's and Byatt's short stories are in tune with the critique of the collective 'we' of the Anthropocene that suggests that 'Anthropos' names a capitalist, racist, patriarchal, and settler colonialist regime of exploitation. Atwood's story inscribes the geologic as an interdiction and a figure of the limit to the abuse of the Anthropos, delivering, with lithic indifference, justice to the victim of the extractionist regime. In turn, Byatt's story dramatizes—and celebrates—geologic liberation through her female protagonist turning into stone. Geologic matter in these two stories is a signifier of 'planetary alterity,' to use Gayatri Spivak's term (Spivak, 2003: 81), and the relationship between the female protagonists and the geologic in both stories is one of synergy best captured by political concepts of solidarity (Atwood) and decolonization (Byatt). It is symptomatic of the current moment

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<sup>4</sup> See, Zoe Todd (2015), Donna Haraway (2015), Jason Moore (2011), and Christophe Bonneuil (2016), among others.

that, in these texts, the geologic is imagined as an ally to the disempowered and oppressed rather than as an object of mastery. An extractive relation of certain forms of human life to (geologic) nonlife gives way to new forms of intimacy and conviviality—to a recognition of indebtedness of life to nonlife (Atwood), and to a crosspollination that cuts across ontological categories (Byatt).

I propose the term *geomediation* to capture the way in which the geologic matter in these texts mediates access to deep memory (planetary history recorded through the work of sedimentation) and serves as a vector of recuperation and recovery (exemplified by the igneous creativity of stone). The term geomediation recalls Jussi Parikka's geology of media; yet, it captures almost the opposite intent. While Parikka is interested in how the agency of geological materials extracted from the earth persists in seemingly immaterial media devices, I am intrigued by the mediatic in the geologic—the capacity of the earth and the soil to be media, to mediate traumatic histories, to forge new vectors of transformation and becoming for humans. Geomediation is a form of Richard Grusin's radical mediation that 'involves modulation, translation, or transformation, not just linking' (Grusin, 2015: 138). Grusin's reformulation of mediation maintains that mediation is generative rather than representational, is multi-scalar, and operates independently of the human (across both human and nonhuman domains). It is generative of experiences, forms, and flows as well as expressive of them. In these two stories, sedimentation can be seen as a medium of deep memory (ancient media, a recording of earth's processes) and igneous creativity as a medium of differentiation that cuts across formations, reorganizing existing strata.

My interest in Atwood's and Byatt's stories is not limited to their geological aesthetic as merely exemplifying the sensibilities of the geologic turn. I propose that these writers' turn to mineralogy, to the material processes of moldering and sedimentation, as well as of igneous creativity and regeneration, signals a desire—visible in postcolonial writings as well—to find a new language to write about trauma, beyond the psychoanalytic mode.<sup>5</sup> The field of trauma studies, while invigorated by

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<sup>5</sup> See Alla Ivanchikova (2017).



broadening its focus to include transnational, transcultural, and cross-generational dimensions of trauma, is currently characterized by a desire to forge alternatives to the psychoanalytic toolkit that found its expression in the groundbreaking work of Cathy Caruth and Shoshana Felman in the 1990s. Fictions of the geologic turn feature geologic processes as not just metaphors of psychological activity but as material flows that resist translation into psychological work (or psychoanalytically-informed terminology). They deploy metallic alphabets, tectonic figurations, limestone hieroglyphics, and telluric vocabularies to stage new vectors of mediation of suffering and recovery that are not linguistic but mineralogical. Instead of promising mastery over nature, these twenty-first century geologic mediations signal humanity's impoverished status as denizens of the world of catastrophically diminishing resources, the inevitability of mass extinctions, and the incalculability of the effects of human actions. And yet, these fictions of the geologic turn also allow us to imagine new ways of experiencing the planet, our bodies, and our grief. To use Elisabeth Grosz's words, they 'bring about sensations, not sensations of what we know and recognize, but of what is unknown, unexperienced, traces not of the past but of the future, not of the human and its recognized features, but of the inhuman' (Grosz, 2008: 60).

### **Stone Mattress**

In his essay 'About a Stone,' anthropologist Hugo Reinert asks, 'What kind of a critter might a stone be? Does it have a life, or something like it? What modes of passionate immersions—or love, or intimacy—could a stone afford?' (Reinert, 2016: 96) In Margaret Atwood's short story 'Stone Mattress,' a seemingly inert stone—a stromatolite found on a desolate shore in the Canadian Arctic—is attributed a low degree of animacy and manifests 'a life, or something like it,' when it assists the protagonist in her retaliation plot, mediating a violent intimacy between two bodies: a rapist and his victim.<sup>6</sup> The ancient fossil—a vestige of prior life on Earth—is featured in the story as a medium of memory, as a record of indebtedness, as containing unspent

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<sup>6</sup> All quotations from 'Stone Mattress' are from the edition of the story first published in *The New Yorker*, available at <https://www.newyorker.com/magazine/2011/12/19/stone-mattress>. [accessed 11 Sept, 2017]. 'Animacy' is Mel Y. Chen's term (Chen, 2012).

potentialities and forces that become handy just at the right moment, and as a figure of a limit to exploitation and abuse. It becomes a juncture for both a critique of patriarchy and Atwood's reproof of an extractive relation to the planet. The story's interest in a geologic setting, in deep time and planetary scale, and in fossilized, stratified matter, marks it as a fiction of the geologic turn—an intervention into debates about the contours of the human, or the Anthropos named in the designation of the Anthropocene. A feminist text, it both stages a geologic-human configuration—one of complicity and revenge rather than of extraction—and refutes the undifferentiated 'we' of species thinking.

Atwood's story first appeared in *The New Yorker* in 2011, prior to being published in a collection, *Stone Mattress: Nine Wicked Tales*, in 2015. The story pursues some of Atwood's long-standing interests—in the Canadian wilderness 'and the awful things it can do to you' (Hamill, 2003: 48) as well as in the mysteries harbored by Arctic landscapes. It is likely inspired by Atwood's own pilgrimage on board a Russian ice-breaker to Beechy Island in Arctic Canada, a heavily mythologized location where three members of Sir John Franklin's doomed expedition are buried.<sup>7</sup> Like many of Atwood's other texts, 'Stone Mattress' also dramatizes men's exploitation of women as well as women's attempt to negotiate patriarchal-capitalist structures that stack the odds against their success and even survival. It also recalls Atwood's prior novels' alignment of imminent planetary collapse with the culture of extraction that relies on an ecosystem's services, as well as on availability of cheap natural resources, to obtain profit.<sup>8</sup> Women's effort to survive in Atwood's works places them in proximity with other species that labor against the threat of extinction, designating the capitalist patriarchal world as a system that is built upon exploitation of both life and non-life, bios and geos, for short-term gain. It also exemplifies Atwood's interest in debt, especially human indebtedness to the planet. In her 2008 *Payback: Debt and the Shadow Side of Wealth*, Atwood takes up the issue of debt as a critical tool for

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<sup>7</sup> Atwood describes this experience, which included her planting a pebble from Beechy Island in a city park in Toronto, in her essay 'To Beechy Island' (Atwood, 2004).

<sup>8</sup> See, for example, Atwood's *The Handmaid's Tale*, *Oryx and Crake*, and *The Year of the Flood*.

thinking about politics, the economy, culture, war, and, notably, ecology. As Philip Godchild puts it, Atwood claims that ‘humanity is building an unacknowledged, uncounted, and unpaid debt, and that, unless we pay up, we will have to face “pay-back.” Payback is conceived as a massive ecological version of a market “correction,” one that wipes the slate clean’ (Godchild, 2011: 376). ‘Stone Mattress’ allegorizes such a payback—the protagonist acting as an avenger and an ancient stone a figure of retribution. Coming to terms with our indebtedness to the planet, the story suggests, means recognizing the shadow side of wealth and committing to settling accounts.

‘Stone Mattress’ features physical-therapist-in-retirement Verna, a serial widow, who achieved considerable financial security—‘layer upon layer of kind, soft, insulating money’—by marrying men with physical ailments and then steering them gently towards death through overmedication and a lifestyle that involved artery-clogging gluttony and Viagra. Like many of Atwood’s female characters, Verna inhabits a capitalist patriarchal universe in which she learns to survive but that is ultimately alien to her. Money invoked in the story is imagined as layers, as a result of a gradual accumulation of privilege, foreshadowing another image of sedimentation in the story—the ancient fossil called ‘stromatolite’—a stone mattress. The story’s stratigraphic impulse is to excavate layers of such accrued privilege and expose them as debt—of men to women, of humans to prior forms of life, and of bios to geos—and to envision a way of settling accounts. As it recalls the traumas of one person’s past, the story also hints at a record of planetary catastrophes and extinctions, using its geologic setting as a mediation between the two forms of memory, two types of trauma: personal and planetary.

Verna’s life trajectory is a response to a traumatic event that happened early in her life. We learn that she was a victim of a sexual assault (a date rape) at the age of fourteen, which changed her life forever, resulting in her—and not the rapist—being shunned from her small-town community. She gave birth to a baby that was instantly given away, and became homeless and dispossessed, before managing to rebuild her life in Toronto. She unexpectedly meets her rapist fifty years later on a Canadian Arctic cruise, and while her blood turns cold at the sight of ‘Bob,’ he does not remember her at all, even after she tells him her name. ‘Bob’—one of many Bobs

on the cruise and a figure more than a person in a story—is strongly associated with the culture of capitalist extraction: in contrast with Verna, who came from a poor side of her small town, he came from ‘the rich, Cadillac-driving end of town where the mining-company big shots lived.’ The story implies that Bob’s privilege comes from the money his family has accumulated by extracting and appropriating the resources of the planet, thus amassing a debt that remains unpaid. This accumulated benefit is predicated on a hidden record of corporeal trauma, loss, and ecosystem diminishment—an exploitation of both life and non-life (Verna’s livelihood and planetary stability).

The story’s setting—a pricey cruise through the Canadian Arctic made available to wealthy Canadian retirees—gestures towards climate change that melts the polar ice caps, opening the Northwestern Passage for navigation, further inscribing the connection between Bob’s initial accumulation of money via mining and his consumption of the planet in retirement the story gains much of its traction by engaging with the particularities of its key geologic object—a panoply of stromatolites that the tourists are brought to examine on a desolate Arctic shore. As the staff geologist explains to the curious tourists, stromatolites are sedimentary structures that are made through the slow accretion of materials, layer by layer:

The word comes from the Greek *stroma*, a mattress, coupled with the root word for ‘stone.’ Stone mattress: a fossilized cushion, formed by layer upon layer of blue-green algae building up into a mound or dome. It was this very same blue-green algae that created the oxygen they are now breathing.

Fossilized stromatolites provide a record of life on earth that is ancient, some as old as 1.9 billion years, ‘before fish, before dinosaurs, before mammals—the very first preserved form of life on this planet.’ They are a result of a primary colonization of the geologic by the organic—algae over rock. The stone mattress is thus a complex figure of indebtedness—the debt of life to the geologic substratum that it colonizes, layer by layer, and the debt of younger life forms to the oxygen-giving, life-granting primordial algae whose ancient work has been captured by the fossil. The stone mat-

tress is also a signifier of patriarchal exploitation invoking an image of victims of sexual violence carrying a mattress with them in protest, and Verna deploys these sexual connotations to flirt with one of the other Bobs at her dinner table: “I’m looking forward to them,” she says. “The stone mattresses.” She gives the word “mattress” the tiniest hint of suggestiveness, and gets an approving twinkle out of Bob the Second.’

A figure of patriarchal and capitalist impunity, Bob (the first) meets his death struck by a 1.9-billion-year old stromatolite, an ancient fossil that accommodates Verna by providing perfectly sharp edges and by fitting seamlessly into her hand. Bob’s death is soundless and instant—his body is left behind an ancient ridge, for the ravens and other creatures to consume and benefit from: ‘bones are an important source of scarce calcium for ravens and lemmings and foxes and, well, the entire food chain, because the Arctic recycles everything,’ as the staff geologist explains earlier. The geologic here figures as an interdiction, a limit to abuse—a figure of retaliation and justice against the exploiting Anthropos—the one who would ‘use and toss,’ as Verna thinks bitterly. Bob’s unearned advantage over teenage Verna is reconfigured as a form of borrowing—an unacknowledged debt—and his death settles an account. The image of the stromatolite—a stone mattress—captures the interconnectedness of two histories, the history of human indebtedness to the planet and the history of patriarchal exploitation of women, aligning its female protagonist with the nonhuman geos rather than with the extraction-oriented Anthropos.

The fossil object in the story serves as the portal into deep time and a figure of alterity. Fossils are paradoxical, untimely objects that carry with them vestiges of extinct worlds—reminders of life’s alterity as it builds new forms out of prior extinctions. As Kathryn Yusoff puts it in the essay ‘Anthropogenesis,’ a fossil ‘is an abandoned being that suddenly in the midst of the present reconfigures the possibilities of times, of past and future, and like the line of flight thrown from some prehistoric world or imagined future it offers a hitherto unimaginable direction to thought and becoming’ (Yusoff, 2016: 789). Momentarily, the fossil-enabled murder reconfigures stratifications of gender, human and animal, life and non-life. Bob’s body is seen as future bones—as a mineral supplement to animal life in the Arctic. Here, the geo-human interface is one of solidarity and complicity: the stone mattress—the

cumulative energy of the first life—has a strange affinity with Verna the protagonist: vibrating with an unspent force, and yet, with an epic indifference worthy of a stone that saw the advent and the extinction of dinosaurs, the stromatolite claims a life that it itself had enabled, by creating conditions for its existence, 1.9 billion years ago. It does not take abuse lightly; it takes revenge by waiting patiently, having as its advantage the geological time scale. By staging a human-geologic intimacy, the story proffers an image of solidarity between the (female) human protagonist seeking justice and the nonhuman Arctic ecosystem—a moment of disruption of the extractive relation to the geos.

### **A Stone Woman**

A.S. Byatt's short story 'A Stone Woman' (2003) again stages a human-geologic interface as an act of solidarity between unlike entities. As in 'Stone Mattress,' the geologic is imagined not as an object of exploitation, but in a relation of proximity to the injured female protagonist. If in 'Stone Mattress' the fossil assists the female protagonist in her revenge against the exploiting Anthropos, here, the female protagonist herself becomes a site of radical mineral liberation—an occasion for a display of mineralogical exuberance and creativity. Conveying a passage of the (wounded) human into the (liberated) nonhuman, the story dramatizes the instability of life/non-life boundary and uses geologic mediation as a vector of recovery and healing for the ailing human protagonist. The mineral is no longer extrinsic, but intrinsic to the human, erupting from within to reorient and reorganize the human body and its relation to its environment. Ultimately, the story positions the geologic as a colonized object that seeks liberation, thus aligning planetary care with other projects of radical decolonization.

'A Stone Woman' also first appeared in *The New Yorker*, prior to being published as a part of Byatt's *Little Black Book of Stories* in 2004. It features Ines—an ageing woman—who begins to transform into stone as a response to a traumatic event, the loss of her mother. The world of the story is female-centered: grief-stricken, Ines recalls the quiet pleasures of sharing an apartment, and life, with her mother. Theirs was a private, domestic, yet a deeply nourishing existence filled with their love for

books, culinary experiments, and mutual care. Shrugging off the culturally conditioned framing of this relationship as one of obligation, rather than one of intimacy, Ines remarks to herself: 'People had thought she was a dutiful daughter. They could not imagine two intelligent women who simply understood and loved each other.'<sup>9</sup> Bemused, but not entirely surprised by the onset of her inexplicable metamorphosis, she gives in to the process, assuming that she is turning to stone out of grief, becoming a monument to her lost mother:

Her legs now chinked together when she moved. The first apparition of the stony crust outside her clothing was strange and beautiful. She observed its beginnings in the mirror one morning, while brushing her hair: a necklace of veiled swellings above her collarbone, which broke slowly through the skin like eyes from closed lids, and became opal—fire opal, black opal, geyserite, and hydrophane, full of watery light. She found herself preening in the mirror.

In this passage, the initial manifestation of the geologic is interpreted by Ines simultaneously as a gift (a necklace), as disease (swellings), and as a new way of seeing (breaking 'through the skin like eyes from closed lids'), before it erupts into a joyful cacophony of mineral colors and shades—fire opal, geyserite, hydrophane. This disorienting moment, which results in Ines 'preening,' is a welcome respite from grief, marking the beginning of her recovery.

Predictably, the story generated psychoanalytic interpretations: Bethany J. Bear, for instance, reads Ines's mineral makeover as a regression into a pre-Oedipal stage—'back towards the bliss of infancy and speechlessness' (Bear, 2007: 82) and away 'from the world of patriarchal culture which demands that she live with her lack' (Bear, 2007: 68). The story indeed stages a flight from language: Ines—a professional lexicographer whose job is to research etymologies for a major dictionary—becomes

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<sup>9</sup> All quotations from 'A Stone Woman' are from the edition of the story first published in *The New Yorker* in 2003, available at <https://www.newyorker.com/magazine/2003/10/13/a-stone-woman>.

incapable of reading, writing, and eventually speaking in human tongue as her transformation progresses. While noting the character's drift away from human language, such interpretation does not, however, account for the emergence of a new vocabulary—one of stones, which brings to the foreground the geologic not as an undifferentiated plinth that subtends more complex forms of being, but as a vector of differentiation and ingenuity:

She saw dikes of dolerites, in graduated sills, now invading her inner arms. But it took weeks of patient watching before, by dint of glancing in rapid saccades, she surprised a bubble of rosy barite crystals breaking through a vein of fluorspar, and opening into the form known as a desert rose, bunched with the ore flowers of blue john.

As her transformation progresses, Ines gets accustomed to a newly emerging alphabet of stones—an exuberant effervescence of mineral forms that sprout from within her body. Her thought processes become mediated by geological forms: she ponders, for instance, whether her brain would congeal into limestone, graphite, or rutilated quartz, and whether her eyes would become pearls—'a substance in which the organic met the inorganic, like moss agate.' While Bear concludes that the story dramatizes the subject's return to a pre-Oedipal 'bliss without separation' (Bear, 2007: 84), a maternal *jouissance*, I propose that it may be better understood as an occasion of geologic *jouissance*, the human subject's passage into the nonhuman that allows for an affective, cognitive, and temporal shift and rescaling: a fiction of the geologic turn.

In fact, instead of entering a pre-Oedipal state 'without separation,' Ines, through becoming geologic, acquires a new capability to discern and categorize, as well as perceive. As her human perspective expands to include the mineralogical one, she becomes able to discern the carbon in the exhaust fumes or taste the minerals in rainwater. New distinctions become available and relevant to her, such as the difference between sedimentary rock of organic origins and igneous rock. Instinctively, Ines favors igneous rock and its infernal creativity over coal, chalk, and limestone



calcifications—all biogenic rocks, residues of prior organic life. Igneous rock manifests as petrogenesis—evidence of mysterious subterranean ‘life’—whereas sedimentary rock seems inert by comparison, a mineralized cemetery of prior organisms.<sup>10</sup> Ines’s own corporeal mineralizations are igneous and metamorphic, rather than sedimentary: basalt, tuff, volcanic glass, and pumice appear as incrustations on her surface, evidence of hot lava running through her veins—signs of continuous replenishment and renewal. Her preference for inorganic mineral forms, uncontaminated by organic origins, also manifests as a desire to liberate the geologic from being colonized by excessively ‘organic’ human language. She observes:

The minds of stone-lovers had colonized stones with organic metaphors, like lichen clinging to them with golden or gray-green florid stains. Words came from flesh and hair and plants. Reniform, mammillated, botryoidal, dendrite, hematite. Carnelian is from ‘carnal.’ Serpentine and lizardine are stone reptiles; phyllite is leafy green.

Here, we are offered an image of radical decolonization—a liberation of the geologic from the organic life (lichens) it subtends, and from linguistic colonization. Ines, a professional etymologist, assists in this decolonization process by removing the sticky sheathing of organic metaphors that have invaded the geologic.

As Byatt’s story recalls other tales of female petrification, such as Niobe, Anaxarete, and Lot’s wife, it also navigates out of the punishment premise, refuting these traditional accounts by dramatizing her character’s geologic becoming as a liberation, rather than a sentence; a new kind of mobility rather than immobilization. In doing so, the story destabilizes the centrality of language and consciousness in mediating traumatic experiences. A work of recovery from a traumatic event here occurs via a geological, rather than linguistic mediation. Human language becomes incomprehensible to mineralized Ines: ‘She tried reading, but her new eyes could not bring the dancing black letters to have any more meaning than the spiders and ants that scurried around her feet or mounted her stolid ankles.’ The significance of

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<sup>10</sup> As Cohen puts it, ‘Limestone is a thick cemetery of mineral that had become animal now become rock again’ (Cohen, 2015: 20).

geologic mediation—the story's impulse to account for, classify, and understand the radiant alphabet of stones—has been noted by Carmen Lara Rallo who argues for the centrality of geology in Byatt's work. Rallo shows, convincingly, that Byatt's novel *Possession* has as its intertext Charles Lyell's famous geological treatise *Principles of Geology* (1832), engaging with the key questions that haunted geological thought since its inception in the late eighteenth century—the dichotomy between biology and geology, and 'the vastness of geological time as opposed to human time' (Rallo, 2010: 493). 'A Stone Woman,' Rallo claims, is characterized by the same exactness and precision in relation to its geological material, grappling with the same two questions—the inseparability of bios and geos and the enormity of deep time.

The story, indeed, stages a powerful temporal rescaling: a shift from human time to geological deep time. Dramatizing, in the first half of the story, an anthropomorphic view of stone from the perspective of human time, Ines thinks of stone as inert, and of her transformation as an impending death. Seeking a location that would accommodate what she sees as her future petrified permanence, she seeks a place in a cemetery, where she could stand, inconspicuous, once the transformation is complete. She imagines spending eternity-to-come surrounded by other stony ensembles, with moss growing on her (a figure of inert stone colonized by, presumably, more agile organic matter). And yet, the stone sculptures she encounters in the cemetery:

Faith, Hope, and Charity, simpering lifeless women clutching a stone cross, a stone anchor, and a fat stone helpless child ... had nothing to do with a woman who was made up of volcanic glass and semi-precious stones.

The stony matter she is composed of is neither inert nor particularly peaceful: she discovers that her veins contain glowing streams of molten lava as she cuts herself accidentally one morning while making her toast:

She put out the tiny fires and threw away the burned bread. She thought, I am not just going to stand in the rain and grow moss. I may erupt. She felt panic. To turn to stone is a figure, however fantastic, for death. But to become molten lava, to contain a furnace?

An explosive, liquid, fiery entity, her final destination is not the cemetery but Iceland, a geologically young, active landscape of volcanic terraforming, where sheets of glacial ice spread over livid tectonic furnaces, a landscape into which she disappears, dancing and singing in a language no longer human. Stone as a figure for death here is juxtaposed, paradoxically, to stone as a figure for a different kind of life—a life of constant renewal and uplift, young igneous rock breaking through old sedimentation, new matter melting the old crust, spilling out in a gesture of infernal creativity, a gesture of radical liberation.

While Atwood's narrative is centered around a fossil—a paradoxical object that emerges outside of its proper time, carrying with it vestiges of the past and thus capable of reorganizing the relationships in the present—Byatt's story features igneous rock, crystals, and lava, signifying subterranean productivity of geological processes, a reorganization of old stratified rock by newly intruding molten matter. Mineral liberation in the story reorganizes the established hierarchies of human and nonhuman, subverting our view of the rock as inert matter, and substituting a mineralogical alphabet for linguistic mediation. In geological terms, the transformation represents a cross-cutting relationship, a relationship of igneous intrusion—a young geological force breaking through, and breaking free of existing stratifications.

Byatt's story hints at the partial survival of the human in the passage into the nonhuman, inscribing the geologic-human interface as a site of intensification of sensation, of artistic production and geopoiesis. Importantly, it offers a view of Earth processes from a perspective of deep time—an optics that renders the earth mobile, revealing the slow dance of oceans and continents, mountains and valleys as they change places over millennia—rendering the Earth viscous in its endless creativity. Restored to its proper time scale—deep geological time—even solid crust emerges in the story as constantly moving, changing, vibrating: a powerful actor rather than an acted-upon object. By contrast, the certainty and centrality of human form recedes, becoming ghost-like in its impermanence. For volcanic Ines, human touch starts to feel like a spider web brushing over her shoulder, human voice a remote imperceptible whisper. As she morphs into an earth process, biological objects fall out of focus,

their lifespan quickened as if seen in fast-forward mode, while deep tectonic movements become audible:

Lichens seemed to grow at visible speeds and form rings and coils, with triangular heads like adders. Clearest of all—almost visible—were the huge dancers, forms that humped themselves out of earth and boulders, stamped and hurtled, beckoned with strong arms and snapping fingers. After long looking, she seemed also to see that these things were walking and running, like parasites on the back of some moving beast so huge that the mountain range was only a wrinkle in its vasty hide, as it stirred in its slumber or shook itself slightly as it woke.

This scalar shift thus prepares the reader for the final emergence of the Earth—a beast-like vastness that rumbles and creaks, moving continuously, the narrator, along with all other geologic and organic formations, only parasites on its surface. The stony matter is liberated here from the constraints of human time, coming into its own as a force shaping planetary history.

If in 'Stone Mattress,' the stromatolite figures as the echo of the distant past, a recall of the immemorial debt, here the geologic is a figure of the future: the earth to come. While Atwood's layers of fossilized sedimentation represent a record of past catastrophes, here igneous intrusions represent a destratifying force with a potential to reorganize, restratify, and redistribute. Both stories ultimately argue for a certain redistribution—and retribution—written from a perspective that has affinity with the Earth's forces. In a stone, their female protagonists find an unexpected ally, and if in 'Stone Mattress' the stone seems to act in solidarity with a victim of rape, in 'A Stone Woman,' Ines shows solidarity with the mineral, submitting to the transformation into a stone. Ines becoming-geologic, in fact, can be said to allegorize humanity becoming geologic in the Anthropocene. However, instead of intensifying mastery of bios over geos, the story proposes the passing of the human into the nonhuman—a humbling of the human for which she reaps the reward of intensified sensations and access to the inspired geopoiesis.

Colebrook writes that 'Feminism, today, facing the extinction of the human, should turn neither to man nor to woman: both of these figures remain human, all too human, as does the concept of the environment that has always allowed man to live on through a vitalist ethic' (Colebrook, 2014: 16). Byatt's short story allows us to reframe questions of subjectivity, agency, and decolonization in the Anthropocene as it dramatizes a partial survival of the human as the geologic 'decolonizes itself.' By yielding to the agency of the geologic, the protagonist allows herself to be carried into an unforeseen future by forces she does not understand. The stories allow us to imagine and capture the immense depths of geologic time, Atwood presenting a traumatic stratigraphy of sedimented layers and Byatt featuring igneous becomings. As such, these fictions of the geologic turn help us envision, in the era of Anthropocene-inspired debates, new forms of relationality between bios and geos, while at the same time destabilizing the figure of the monolithic 'Anthropos' of the Anthropocene.

### Competing Interests

The author has no competing interests to declare.

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