

Underground imaginations, environmental crisis and subterranean cultural geographies

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Abstract

It is claimed that our current environmental crisis is one of the imaginations: we are in desperate need of new means to understand relations between humans and their environment. The underground was once central to the evolution of Western environmental imaginations. Yet, this has waned throughout the 20th century as eyes and minds turned up and out. After outlining some of the history of the underground as a site from which to evolve environmental imaginations, the article will explore how the underground might propagate environmental imaginations fit for pressing contemporary environmental concerns. It will do so using examples of three caves evolved through an ongoing arts practice-based research collaboration with artist Flora Parrott. Exploring these three caves, I will explore how the underground offers a powerful site for doing the imaginative work that our current environmental crisis requires, focusing in particular on the challenges of engaging lively earths and deep times (pasts and futures) that have become commonplace in the Anthropocene. To close, the article begins to reflect on the possibilities of collaborative creative geographies as a means to rethink the idea of the imagination within geography, as not just something that might be studied but that these creative practices might enable the creation of much-needed new imaginations.

Keywords

art, caves, imagination, subterranean, underground, Anthropocene, environment

Going underground?

Our current environmental crisis is, for many across the humanities, ‘a crisis of the imagination’. In other words, Western societies have failed to get to grips with the changing nature of our environmental relations and we urgently need new ways of understanding nature and human relations with it.¹ Claire Colebrook goes so far as to argue that not since Darwin’s Theory of Evolution has Western environmental thinking faced such a wholesale reckoning.² Bron Szereysynski captures the

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common sentiment when he suggests we need to 'reimagine relations across the planet between humans, and between humans and non-humans, and recompose the lived time of human history and the deep time of our home planet'.³ Indeed, the Anthropocene, that contentious identification of a new geologic epoch premised on scientific claims that human-environmental impacts are reaching geophysical levels, poses a series of imaginative challenges. As Szerezynski asks, 'how can its seemingly incompatible scales of action and consequence, event and outcome, and the deep enfolding of human and inhuman agencies it pronounces be given form or even imagined?'⁴ And further, 'how do we explore the thresholds where the social meets the geologic, the inorganic, the inhuman?'⁵ Furthermore, the very imagination of the Anthropocene itself is one that has been up for considerable debate, exploring the geographies and time-spaces of this human centric concept.⁶ This article is concerned to advance the argument that the underground (or subterranean) might offer a valuable site at which to tackle some of this contemporary imagination work. It does so by way of a discussion of three underground sites encountered in the course of an ongoing collaboration with artist Flora Parrott. As it comes to a close, the article reflects on the possibilities of such creative collaborative geographies, both to study the geographical imaginations of others (as cultural geography has long done) and, perhaps, to attempt through this practice-based work to create much-needed new imaginations.

Histories of the subterranean in European Modernity demonstrate how 'although always present, waves of underground imagery have tended to peak during periods of especially rapid and difficult change'.⁷ If the 20th century is largely agreed to have witnessed a decentring of the underground from our imaginations – as Western Eyes and minds were turned up and out, by flight, adventures in outer space and of late, by climate change and other atmospheric preoccupations – there is ample evidence within and beyond geography that a new wave of going underground is beginning to swell.⁸ Indeed, the recent underground ventures of geographers and others have countered the upwards gaze of much of geography's vertical turn – focusing on skyscrapers, air-space, mountains, the atmosphere and so on.⁹ Enhanced attention downwards has included explorations of the underground as a site of memory, the subterranean infrastructure of our cities (past and present), the vertical resource geographies of both expansionist colonial pasts and the extractive presents of a dematerialising economy, and the cultures and histories of caving.¹⁰ Such accounts explore how seeing, sensing and representing bring diverse undergrounds into being. Yet, in the midst of this direction of energies towards the subterranean and its associated materialities such as stone, soil and fuel, we have overlooked an important aspect: the underground's imaginative force.¹¹

Literary, cultural and visual histories have long identified diverse imaginations of the underground and have even explored the role they played in constituting Western and non-Western environmental imaginations.¹² Key here has been Rosalind Williams' work on 19th- and early 20th-century European literature as forwarding a very modern separation of nature and culture, wherein 'underground worlds have provided a prophetic view into our environmental future . . . furnish[ing] a model of an artificial environment from which nature has been effectively banished'.¹³ Today, however, there appears to be space for a rather different set of environmental imaginations to emerge from underground spaces. The rise of the Anthropocene has turned attention across arts and humanities and social sciences to the geologic, inevitably associated with the subterranean.¹⁴ Here, we find the material vitality of the Earth itself is foregrounded in a reconceptualisation of the agency of the inorganic, mineral and geologic alongside the biological. Such that, attending to the geologic has become synonymous with an 'ungrounding' of the Earth and a thinking (by way of ideas of deep time) about the human and beyond human experience, with profound implications. For those interested in political and economic geographies acknowledging a 'terra' that was never firm has had far-reaching consequences for ideas like territory, and the practices of

nation-states and corporations which often assume Earthly backdrops that hold still for ownership and exploitation,¹⁵ while for cultural geographers and environmental humanities scholars, questions of life and the space-times of geologic life have come into focus.¹⁶ Elizabeth Povinelli, for example, proposes the concept of geontologies to attend to what the 'geos' might offer in place of long-held understandings of life and politics premised on 'bios',¹⁷ while others observe the need to embrace 'a newly poignant sense that our present is in fact accompanied by deep pasts and deep futures'.¹⁸

The following section of this article will parse these discussions of the underground and the environmental imagination in more detail, before turning to its empirical core. This is constituted through visits to three caves. These visits occurred in the context of an ongoing collaboration developed with artist Flora Parrott.¹⁹ The first cave, visited in summer 2015, is in the Mendips in Somerset, England, encountered on a group caving trip organised by Flora. The second is an artificial cave, created during an artist's workshop in a London gallery with the same group that had been on that earlier subterranean field-trip. The third cave the paper visits is Mother Shipton's cave, near Knaresborough in North Yorkshire, England, to which Flora and I journeyed in 2019.²⁰ Our collaboration has ranged across a number of sites around the world and resulted in a series of solo and collaborative outputs, from installations and performances to seminars, book chapters and now this article.²¹ What emerges through the creative encounters with the underground discussed here is an environmental imagination that, as I will explore, is fit for some of the current imaginative challenges we face. It considers the material and deep time intimacies and sensualities of human bodies with/in millennia-old rocky bodies, recent plastic ones and mineralogical deposits that are merely months old. In doing so, it explores how the underground, far from offering a site of separation of nature/culture, as it did in the 19th century, is in fact a renewed site for their engagement and intersection.

Underground imaginations

Many cultures and histories of the underground have mapped the material and social dimensions of subterranean natural forms, from caves and caverns to infrastructural forms, including subways, sewers, mines, tunnels and more recently bunkers, and of course their materialities; stone, mud, earth, rock and so on.²² Others have sought to sift through, as Pike puts it, 'the discarded fragments of these past cultures of the underground', for the subterranean's wider cultural valences.²³ Along with Pike's work, it is perhaps Rosalind Williams' modestly titled but ambitious 'Notes on the Underground' that offers the most extended and explicit excavation of the historical place of the underground in evolving environmental imaginations.²⁴ Intersecting the literary undergrounds of European Modernity with science and technology studies, Williams' volume locates the underground as a visionary site for technological futures. The defining aspect of these futures however, is the underground's 'exclusion of nature – of biological diversity, of seasons, of plants, of the sun and the stars'.²⁵ The subterranean laboratory, she writes, 'takes to an extreme, the ecological simplification of modern cities where it sometimes seems that humans, rats, insects and microbes are the only remaining forms of wildlife'.²⁶ This underground, perhaps not unsurprisingly, given the sources used, appears the apotheosis of that very modern separation of nature and culture. More recent engagements with the underground, however, especially by way of conceptions of Earthly liveliness and the Anthropocene's Geologic Turn, demand the embrace of environmental imaginations diametrically opposed to this separation of nature and culture. In contrast to Williams' artificial undergrounds, the underground that emerges through discussions of the geologic is animated by a politics of life that is thoroughly entangled within the geologic.

As Yusoff and Clarke make clear, we have inherited stories of a 'planet so slow moving it could just about be ignored – give or take an occasional, inopportune shudder', how they ask, do we

counter this 'decisive stilling of the Earth in social and philosophical thought'.²⁷ For, the Anthropocene demands an 'expansion and touring', of 'conceptions of agency, intimacy and politics' that have been forwarded by thinking mostly about the 'bios'.²⁸ To take seriously humans as a geologic force, as the Anthropocene requires we do, suggests the need to guard against any asymmetric rendering that fails to reflect on how geologic forces might also 'compose and differentiate corporeal and collective biopolitical formations'.²⁹ Elizabeth Povinelli's geontologies offer one means through which to begin this work, replacing a logics of life premised on bios and a biopolitics, with geos and their complex intersections of life and non-life.³⁰

Yet imagining Earthly inhuman excess, so different to and excessive of the human and other forms of biotic life as to unground our understandings of life itself, is not an insignificant challenge for Western environmental imaginations. Oftentimes it is in non-Western world we have found elaborations on these imaginations – whether that be in clashes between the dreamings of Australian Indigenous communities and the mining companies who see them as mineral resources, or the earth-beings recognised by Andean Farmers and Bolivian tin miners, whose metabolisms are being exhausted by open-cast mining practices.³¹ Others have turned to art and aesthetics more widely. Elizabeth Grosz has long argued for the potential of art as offering 'new kinds of material practice' for 'an era of intensifying geophysical turbulence . . . new genres and practices that tap into and work with the shifting forces of contemporary earth'.³² If questions of Earthly liveliness have posed one set of imaginative challenges, a second set concerns the space-times and temporalities that such liveliness poses. We need, David Farrier argues, to find the means to embrace, 'a newly poignant sense that our present is in fact accompanied by deep pasts and deep futures'.³³ How, he and others ask, can we make sense of the complex times we are now enfolded within, finding ways to explore the 'sensuality of deep time', and a sense of the 'depth and richness of our enfolded in geologic intimacy'?³⁴

It is perhaps of no real surprise that the underground offers a rich site for encountering lively matters and deep times. This emerges clearly even in historical accounts of sublime caves and caverns, as well as more recent 'aesthetic geologies' such as MacFarlane's journeying into the deep time of multiple 'underlands' – from ice caves to vast undersea mines – and a range of studies of contemporary artistic practices.³⁵ Such encounters are also offered by accounts of the 'sacrifice zones' of vast open-cast mining complexes, debates about geological golden spikes, mantle strikes and explorations of the foundational shakings of the 1755 Lisbon Earthquake and the ancient painted caves of Lascaux.³⁶ Attending to these iconic and important sites often has a political imperative, yet to only explore such 'wonder-full' underground risks foreclosing the potential of other kinds of subterranean spaces. Indeed, such charismatic, iconic sites and events risk intensifying the tendency cultural anthropologists Gisli Pálsson and Heather Anne Swanson observe for the geological to be 'rendered as synonymous with the planetary' and distant from embodied, intimate and everyday experiences.³⁷ This article counters this with a focus on two of the more banal and even kitschy caves encountered during my collaboration with Flora. Rather than foreground these 'wonder-less wonders' (to borrow Daniel Defoe's description of these kinds of English scenery³⁸) over and against the more sublime experiences of the underground, the article explores how the ordinary and extraordinary become combined, creating everyday, intimate undergrounds that offer experiences of the sensuality of deep time.³⁹ The intention is less, following Pálsson and Swanson to try to evolve a 'grand theory of geosociology,' than it is to attend 'to how geologic relations matter differently to particular entities in particular locals'. In this case attending to 'the intertwining of bodies and biographies with earth systems and deep time histories' is to create deep time intimacies that rethink nature–society relations and play with questions of time, space, bodies and underground processes and landscapes.⁴⁰ We begin in a cave system under the chalky Mendip Hills in Somerset, Southern England.



Figure 1. The artificial cave.
Source: Photo (author's own).

The Artificial cave

The question of time in the Anthropocene is a testy one, for it has become known as an 'epically controversial geologic epoch' that causes 'fatal confusions' in Western understandings of time and temporality. It poses imaginative challenges, demanding, as Ferrier writes, 'a kind of deep time negative capability, inducting us into the strangeness of a temporality that vastly exceeds intergenerational memory'.⁴¹ Yet, as these discussions evolve, the challenge of imagining distant pasts is rendered even more complicated by the need to appreciate how these vast spans also erupt into the everyday: 'the thickening of the present as a confluence of deep time and deep futures'.⁴² What follows explores these ideas firstly in the context of our Mendips (Somerset, UK) caving experiences, and secondly, through our reflections on these experiences during a small event in a London gallery. During this event, some 10 of the group that went caving created an artificial cave that became a site prompting reflections on the earlier caving experience (Figure 1). Discussion probes the tensions between caving bodies 'in the flow,' caught in the immediacy of the experience, and bodies that are caught within millennia-old rocky bodies, as well as more recent plastic ones. In doing so, it reflects on the imaginative work of addressing an 'in-human agency that is not and cannot be fully extensive with the human domain, however inclusively this is imagined'.⁴³

Deep time intimacies?

Damp, chilly and boiler-suited up we squeezed, crawled and scrambled our way through tunnels and water filled channels for hours. After twisting ourselves through a tight passage, corkscrewing bodies pulling with arms and pushing with legs, we lay on a smooth rocky surface, its shallow incline mirroring the pitch of the roof. We turn our head-lamps off, and prone on our backs listen in the dark to our guide telling us that these rocks would send compasses haywire, that some of the sediments have a reverse polarity; they are remnant magnetisms from paleomagnetic events.

Caves and human bodies are ontologically connected. A cave is defined as a cave if it is open to the surface and large enough to admit a human body, vugs, hollows and holes into which humans cannot enter, are not caves. If caves are shaped, as Sarah Cant puts it, 'through sensing caving

bodies', then oftentimes accounts observe how, as a practice, caving often brings us to our bodies in particular ways.⁴⁴ Stories of caving have become synonymous with a post-phenomenological accounting of landscapes, bodies and worlds. These are stories of the becoming of bodies, matter, textures and light (or rather no natural light), stories of spaces, surfaces and sensations narrated through patterns of contact and non-contact, and our own explorations where no exception.⁴⁵ Geographical accounts of caving map intimate spatialities of, in Cant's words, 'flux between human geographies of exploration and encounter, and physical geographies of space within rock: lime, water and calcite'.⁴⁶ Senses are heightened by the darkness, physical challenges and different environments of the cave, destabilising bodily presence and boundaries as bodies evolve into heightened sensory devices, sensitised to changing surfaces, shifting light scales and to the movement and temperature of air.⁴⁷

Oftentimes, the temporalities of our intimacies of bodies of flesh and rock, of skin and sediment, were those of being caught in the present, as we scrambled around, inelegantly, amateurishly, absorbed in working out where to put our feet and hands in the here and now. At other moments, waiting our turns poised at the top of a slippery waterfall whose base we could not see, or queuing up nervously at the entrance to a narrow corkscrewing tunnel only navigable one way, time seemed to stretch out endlessly, defying my desire to get it over with. The shifting time frames of our sensing-caving bodies as they negotiate intimacies with rock, water and various forms of technology (harnesses, hats, carabiners, Wellington Boots) are enfolded with what we might call after Farrier the 'sensuality of deep time'.⁴⁸ For alongside these embodied experiences of lived time is the infusion of caving with what Cant observes as the 'immense geological presence', while for Rob MacFarlane, to journey into underlands is to journey into deep time.⁴⁹ Edwards finds caving time to be a time of thresholds:

when a breakthrough comes, ordinary time stops, as they [cavers] face the enormity of an encounter with deep, geologic time in a space, which may, on some rare occasions, never have been encountered before. This threshold represents the persistence of the sublime in caving culture, framed and set off by the ordinary of what proceeds and indeed follows it.⁵⁰

Our Mendip caving was by contrast very ordinary, beginners caving. We made no breakthroughs, we found no new passages, yet we did pause often to reflect on the press of geology, on the feeling of being amidst millennia, smoothing with hands rocks shaped by thousands of years of running water, seeing compasses dragging off north by remnant magnetisms. Our perhaps quite predictable caving experiences kept in play together the experiences of being in our bodies and being within rocky bodies; the immediate presentness of scrabbling climbing and negotiating always entangled with the temporalities of deep time.

Futures-excesses

We stand around in a slightly dusty gallery space in East London and ponder the plastic sections, occasionally consulting the line map of the caves we had explored a month or so earlier. We trade memories trying to recreate our journeys and experiences underground. Hexagonal in section and joined together with a series of wing nuts the tubular sections of the artificial cave are made of fibre glass, matt black on the outside and oddly dirty beige within (Figure 2). We try to recall the subterranean spaces, playing out bends and cork-screws with our bodies, fixing long sections and tight turns together to mimic these remembered geologies.

As we create new artificial caves on the gallery floor, a geological god-trick of sorts, we reflect on the limitations of this training cave. The plastic sections we are playing with have been fashioned not for us but rather to train want-to-be-cavers and cave-rescue teams to master small spaces.



Figure 2. The artificial cave.

Source: Photo (author's own).

We muse on the limits of this plastic training ground; you can see the end before you go in; you are never really below the surface; nothing is going to fall and trap you; the enclosure is within millimetres of plastic not millennia of rock; you can always be saved, rescued by aid of a screw-driver and some blocks of wood.

The artificial cave was not dark. Its surfaces have been worn slick in some places, in others the chicken wire that forms its structure has been revealed, making sharp edges that catch skin, clothes and hair. It is not the earthy damp smell of the caves, but an antiseptic, sterile smell, kitchen cleaner, mixed with sweat and nerves, these tight places might be in a safely known suburb of London rather than within volumes of rock, but they still made us feel a little panicked at times, as well as rather silly (Figure 3).

As we explored and continually remade our artificial caves, we tended to frame our reflections through what was lacking. As we slithered and grubbed our way through the beige plastic of our geologic forms, we observed how while sometimes tight, and even a little panic inducing, it felt safe, it felt known. It was nothing, we agreed, like caving. Yet, in the imaginative space opened up between our caving in the Mendips and this artificial cave what emerged was less a paucity of sensory experiences and rather a more attuned awareness of the geologies we had been exploring then and now, their differences and also their similarities.

Fibre glass – a composite of glass-reinforced plastic – is an interesting material from which to make a fake cave. Our artificial chthonic experiments led us to tell lithic and strata stories that further complicated the enfolding of deep time pasts, and here futures, in a thickening of the present.⁵¹ If being amid the rock was to be in a space that felt dense, full and textured with time, then it might have been thought that plastic – that modern material, convenient, disposable – might create the exact opposite sense.⁵² Yet if plastic was long a utopic material of timeless smoothness, enabling easy passage through life detached from the flux of time, its imaginaries have shifted of late. The artificial cave was born of strata in a very material sense. Fibre glass, like all plastics, has petrochemical origins. The oil from which it is formed shares a fossil history with the rocks of karstic caving landscapes, often found together, one is formed from fossilised plants, the other

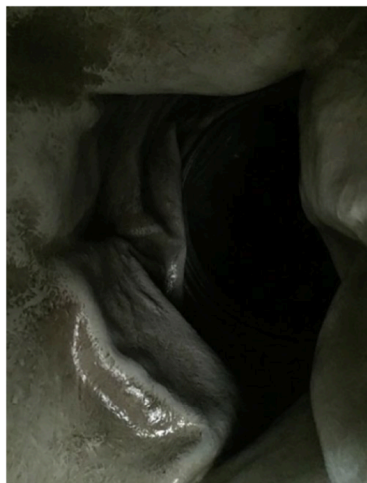


Figure 3. The artificial cave (interior).
Source: Photo (author's own).

from dead sea creatures. But entwined with these material pasts is a sense that the geologic force of plastics really lies in their futures. Some of the same earth scientists responsible for early Anthropocene debates have proposed plastics as technofossils, a datable stratigraphic marker – formed not only from fossils but destined to become one.⁵³ Plastics, Michelle Bastion and Thom Van Buren suggest, are the new immortals, presenting novel forms of persistence.⁵⁴

If the Karst landscapes most popular for caving lend themselves to fluid and porous post-phenomenologies of bodies, water and rock, then crawling through the artificial cave became an experience of recognising, to quote Deborah Dixon, ‘differential renderings of corporeal vulnerability and obduracy’.⁵⁵ Kai Bosworth’s geo-feminist account of Uranium mining in South Dakota explores the ‘shared inhuman geological matrix’ in which the permeability of geological materials is entangled with those of human bodies affected by toxins, forming new, dangerous and unstable consistencies and inconsistencies.⁵⁶ Standing in the midst of a London gallery, the artificial cave lacks the political imperative and force of Bosworth’s exploration, but the experience does encourage us towards particular comprehensions of bodies, senses and substances and their temporalities and materialities. Plastic has long been thought of as smooth, as uncontaminated, as contained. Yet, for Heather Davies, this is the lie that sits at the heart of the promise of plastics: the ‘sealed, clean, smooth surfaces belie a more volatile, unstable materiality’.⁵⁷ The more we crawled, the more we became attuned to the cave’s worn patches, to the smoothing of its faux rugged appearance. Thinking about the volatility of these materials, we mused through different scales, slightly horrified to note the lingering plastic smell as that of substances evaporating off the form. We thought about time, about what would happen when our cave became too worn out to use, about what might become of this particular plastic geology?

The imaginative spaces opened up by the artificial cave play with time, bodies and matter. To be in the artificial cave was to consider plastic as a geological material, intersecting rock and polymer to understand deep time as a story not only of stratigraphic pasts but also of deep futures, of the materials we create that will outlast us and also of materials that entwine with us in ways we cannot afford to overlook.⁵⁸ In the artificial cave, we might not experience the intensity of sensations associated with encounters with the sublime underground, but we do become aware of new and unlikely stabilities and consistencies, as well as instabilities. Going underground becomes a site for thinking both presentness and deep time through bodies of geology, plastic and flesh, and for acknowledging limits. The boundedness of the artificial cave installs within the gallery space a sense of the unknowability of the underground and its excessive geologies. This is important, for one of the challenges of the Anthropocene’s geologic turn is not only to imagine non-human geos but also to recognise that the logics of ‘human-non-human relations based on interconnectedness, reciprocity and mutual affectivity’ might not offer an adequate address to the ‘before, beneath and beyond the human of the geologic’.⁵⁹ For Bosworth, this is not about a lack of understanding or of thought but due to ‘a surplus of potentiality exhibited by the Earth’.⁶⁰

Mother Shipton’s Cave

Charles Lyell, farmer-geologist, writing in his *Principles of Geology* (1830), observed of the erosion he was experiencing in his fields: ‘the imagination was first fatigued and then overpowered by endeavouring to conceive of the immensity of time required for the annihilation of whole continents by so insensible a process’.⁶¹ Almost two centuries later and, in the Western world at least, the imagination of Earthly forces (even given what we now know about plate tectonics) continues to pose challenges, the urgency and dimensions of which have been sharpened by the Anthropocene’s geologic turn. As Yusoff and Clarke have put it, ‘if some form of bios have been enrolled into efforts to reimagine collective life, the basal depths and lumpy masses of the inorganic, the mineral, the geologic, have proved rather more recalcitrant’.⁶² How, in short, we imagine the geologic – ‘composed of seemingly inert minerals, as lively’ – has proven somewhat of a challenge.⁶³ The third cave on this itinerary, Mother Shipton’s Cave, offers a site of lively geologies, not only presented through the ‘putting on display’ of a geological process but by reflecting on how such lively geologies are entwined with biography and bios- life. Claiming to be England’s oldest tourist attraction, Mother Shipton’s Cave and its petrifying well have been attracting visitors for centuries, with written records dating back to 1538 (Figure 4).

Displaying lively earths

We share the ‘Beech Avenue’, a relic of this landscape’s history as a Royal Park, with Dog Walkers and Joggers, and, as a sign informs us, some of the oldest trees in England, their three-hundred-year-old trunks carving unnatural looking straight lines upwards through the gorge. Passing through a wooden door complete with faux gargoyle, we go down to a walk-way by the river that leads to the cave (Figure 5).

From an overhang draped with moss, sheets of water run into fern-fringed pool. A plastic sign politely requests, ‘please don’t drink the water’. The rocky curtain is fringed with a series of macabre objects, an array of hats, an old fashioned ice skate, a Grecian urn, a teapot, a lobster, and strings and strings of small teddy bears, each sporting increasingly stony fur.

Mother Shipton’s Cave, and the associated ‘dripping well’, near Knaresborough Northern England, long a site for local healing, was first officially recorded in the notes of Henry VIII’s antiquary John Leland in 1538. Hired to inventory England’s ‘wonders’ Leland notes,

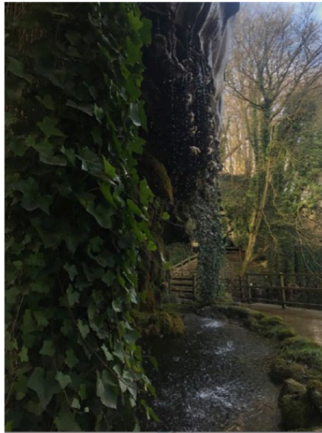


Figure 4. Mother Shipton's cave.
Source: Photo (author's own).



Figure 5. Close up: Petrification well.
Source: Photo (author's own).



Figure 6. Historical image of Mother Shipton's cave and the dripping well.

a well of a wonderful nature called the dripping well . . . for out of great rocks it emits water continually, the water is of such a nature that whatever is cast in and is touched by this water turneth into stone.⁶⁴

The well found its way into the itineraries of aristocratic and gentlemanly travellers, and was featured in popular gazetteers, read as much in drawing rooms as used on the road.⁶⁵ In almost all accounts, the natural wonder of petrification is interwoven with the biography of Mother Shipton, a witch and oracle described as England's most famous prophetess and as the Yorkshire Sibyl (Figure 6).⁶⁶

Down the centuries, local people and tourists have placed things beneath the water's flow, a practice continued today, delighting visitors with a range of stony hats, shoes, teddy bears and plastic toys in various states of 'stonifying'. To witness the objects in the flow of the water, their various crusty mineral layers in active formation, is to experience a liveliness of the lithic that is scaled to the human here and now. Rather than a temporally distant, large-scale process occurring over millennia, or a sudden specular volcanic or earthquake event, geological processes here 'erupt continually in the midst of the everyday'.⁶⁷

The small museum (Figure 7), a few minutes walk from the cave, reinforces the everyday liveliness of these geologies by accompanying its displays of teddy bears in various states of petrification with an account of the 3-month long duration of process (the bears can be bought for £27.50). Also on display is a rather odd assortment of petrified artefacts – often personal things like clothes – left in the well over the centuries; including Queen Mary's Parasol, deposited in the 1920s, some very eerie Victorian Dolls, the hand-bag of crime writer Agatha Christie and a top hat from television presenter Terry Wogan. As well as a 'whose-who' of English vernacular culture, this display curates a geology scaled to generations and human life spans rather than to the epochal. This putting of geology on display proffers a repost of sorts to the conundrum Kai Bosworth observes: 'the rhythms and spaces of life and the radical non-life of the geologic are not necessarily easily synchronized into the everyday or mundane'.⁶⁸ Yet the challenge is to hold both perspectives together, for reflecting on our struggles to think about Earth processes, Grosz observes,



Figure 7. Geology on Display.
Source: Photo (author's own).

it is a question of scale, on the level of vast geologic periods – eras lasting billions of years – there may be intermittent or punctuating catastrophes . . . but at the level of, say, the lived time of a geologic element – the time it takes for example, for a stalagmite to form – there is continuous unpunctuated (even if interrupted and transformed) change.⁶⁹

If the 'lived' time of the petrification at Mother Shipton's cave is one measured in months rather than years, the site does not simply substitute lived time for deep time and, as Pálsson and Swanson, observe risk reproducing formulations that juxtapose 'global' earth systems with 'local' differences'.⁷⁰ On a wonderfully odd sign, Mother Shipton gives us a discordant geology lesson. With a wave of her wizened finger, she instructs,

It has taken the spring water approximately 6,000 years to create this unique geological phenomenon known as the petrifying well. It is a huge mineral deposit formed the same way as a stalactite . . . This ordinary looking stream is in fact very special. It feeds the petrifying well and wishing well with its famous waters. They bubble out of the ground from a spring just out of view, at the end of a mile-long journey from an underground lake.

They travel up from the lake, she continues,

along a porous layer of rock called an aquifer. The band of rock breaks the surface and the water pours out forming the spring. It is from this rock that the water dissolves massive amounts of minerals on its journey, mainly Calcium carbonate (calcite). Just right for turning things to stone!

Here, local petrification processes are situated as one of multiple temporalities and many processes: the 3-month fossilisation of the teddies, the human life spans implied by curation of the artefacts, together with the 6,000+ years of the creation of the well from an already existent older

geology. This creates a complex story of the lived time of geology and its local instantiations as set against wider and longer time frames and processes. If Mother Shipton's voicing of geological science enables these enfolded temporalities, then it also complicates these stories through the implication of myth and magic: 'just right for turning things to stone!' This destabilising note inserts into what was previously a site of science, the complex intersections of human liveliness and petrification practices.

Composing bios and geos

Mother Shipton's cave offers a site where we might argue, following Povinelli, 'the biographic, biological, geography and geologic obligations are seen as co-constituted and inseparable'.⁷¹ A kitschy tourist site is perhaps not an obvious local for the playing out of Povinelli's geontological attempts to decentre a focus on bios with an assertion of geos. Yet, looking more closely at the processes of petrification, the site curates assert mineralogical life.⁷²

If the forms of petrified bears, toys and talismanic human objects present a liveliness of geological processes, they also evoke fossils.⁷³ After all, the turning to stone of once organic material is the very definition of a fossil. Yet, the plastic dinosaurs, lobsters and teddies are all petrified in a very strange process that intensifies even the normal negotiation of living and non-living that fossilisation implies. Indeed, as Yusoff notes of fossils, they 'unlock this life-death, time-untimely, corporeal-incorporeal equation, suggesting the need for a theory of the geologic and a recounting with the forces of mute matter in lively bodies: a corporeality that is driven by inhuman forces'.⁷⁴ Alongside the artificial forms of once-living objects (e.g. a plastic lobster) which have then been petrified through a series of geological processes which implicate another kind of life, the complex imaginations of living and non-living the site explores are further complicated through the figure of Mother Shipton.

A 1881 edition of the Spiritualist observed that it was 'tolerably certain that Mother Shipton had an actual existence, living from around the 1470s until 1540'.⁷⁵ It was rumoured her mother was banished, after being raped by the Devil, to give birth in a cave by the well. Mother Shipton's demonic parentage combined with her prophetic powers ensured her own banishment as a witch. She most famously enraged King Henry VIII when, far from being chastised on being told she was to be tried as a witch, she responded by predicting the death of Cardinal Thomas Wolsey. She was later proven correct. As recorded in a series of prophecy books (first published in 1641 and still available today), Ursula – Mother – Shipton (hence the stone bears) made predictions that echoed down the centuries, predicting future wars, political upheavals, the Great Fire of London (according to Samuel Pepys) and even air travel and the Internet (Figure 8). Her life and prophecies were the subject of many engravings by the likes of William Hogarth, as well as plays and puppet shows and is rumoured she was the original inspiration for the pantomime dame.⁷⁶

Mother Shipton's is a discordant biography; her uncertain existence combined with the enduring power of her prophecies to challenge not only societal order but also linear histories scaled to human lifetimes. In the oracle voice that speaks to visitors from the cave, Mother Shipton's history is narrated as a geo-biography, entwining processes of petrification and centuries of feminine myths which negotiate the boundaries of the human and non-human, of animate and inanimate.⁷⁷ Her powers are mapped against both classical myths of Medusa, the defiled goddess-turned-gorgon whose gaze turned enemies to stone and the 7th-century Saxon Abyss St. Hilda. St. Hilda, who lived on sea cliffs not 70 miles north of Mother Shipton's cave, is famed for benevolent petrification practices: namely, for turning a plague of snakes to stone, their lithic forms said to be found in the ammonites that plentifully dot that coast. Yet if these histories and myths of petrification hinge on a stilling of liveliness, then Mother Shipton's enduring value is perhaps the opposite. Here,



Figure 8. Historical images of Mother Shipton.
Source: Photo (author's own).

rather than the living rendered dead, what was once considered non-living is given agency and animism. If turning of things to stone has long been associated with a criss-crossing of human liveliness, feminine excessiveness and mineralogical animism, these intersect here with everyday, ongoingness of geological processes to offer up stories of mineralisation that reorder ideas of life and non-life – reminding us as Povinelli suggests, ‘we were also rocks and sediment before we settled into this mode of existence’.⁷⁸

Conclusion

The underground has long been a site to which humanity turns – intellectually, imaginatively and literally – when its ways of life are under threat. Until recently, the 21st century, especially in the Western world, had been marked by so-called ‘atmospheric’ and ‘surface’ chauvinisms,⁷⁹ with the underground quite literally overlooked. This article has attempted to intervene within the current interest geographers and others have in going underground, to explore the value of the imaginations that the underground propagates. While sometimes the imaginations created by the explorations of this article – from cave excursions, to gallery installations and field visits – focused on the underground, at other points the underground offered a jumping off point for wider and much-needed environmental imaginations. The three caves here have offered a means to address the aesthetic and imaginary problems posed by the disruptive temporalities of deep time that require an embrace of deep pasts, deep futures as well as the present, together with geological liveliness and the ‘mineralogical dimension of human composition that remains currently under thought’.⁸⁰

In beginning from a creative collaboration (rather than already existing artwork), this article moves towards a set of reflections on how such an embrace of creative practices within geographical research might expand the possibilities of geographical engagements with underground imaginations. In other words, through these kinds of creative practice-based ways of working, we move

beyond studying the imaginations as they emerge from past or present artwork, novels and so on, towards querying how it is that such collaborations might enable the evolution of new imaginations fit for the environmental challenges we currently face. Here, the imagination takes up a place alongside various evocations of aesthetics, of transdisciplinary actions and collectives and of experimental practices as a means to come to terms with the demands of our contemporary environmental crisis. Framing this crisis as, in part, a crisis of the imagination is not without its risks. For some, it is too easy and indeed too dangerous to suggest that in new imaginations lies the route to salvation. To exaggerate the importance of the imaginary is, it has been suggested, to run the risk of consolidating a diversionary side-show, blind to its own relative insignificance. It is also to risk being suspiciously super-structural in understanding cultural behaviour, summoning a monolithic, often largely contemporary Western ‘we’ who are in need of such reimaginings.⁸¹ Yet, we should not overlook the force that has long been attributed to the imagination. Indeed, humanistic geographers were very clear from the outset that the combination of the ideas inside our heads and the world beyond was a co-constitutive one, an observation that has shaped cultural geography for decades, both identifying the darker side of the constitutive force of the imagination (mapping and colonialism) and its potentiality (climate change).⁸² If past studies of the underground have determined the co-constitutive relations between worlds and underground imaginations, as Pike suggests, then future possibilities might lie in not only studying contemporary examples of the underground and our imaginations, as this article has done, but also to push the possibilities of arts practice-based collaborations to not just intervene but to produce new imaginations. This clearly needs considered thought, not least because of the disastrous histories of the imagination as a tool of power. Careful questioning needs to happen of whose imaginations hold sway, and appreciation held of their unpredictable force as they circulate and shift. There are, as scholarship is already noting, significant challenges to be faced when competing imaginations of the underground are brought into contact.⁸³ Furthermore, as geographers, it might be timely to revisit the idea of the imagination, just as we have in recent years come to critique and evolve ideas of creativity and aesthetics. In doing so, we might reflect, as we have on these ideas, on what emerges when we challenge the imagination as primarily a human capacity. If creativity and aesthetics can be understood as non-human practices and experiences, then what might be in store for not only our environmental imaginations but also our thinking on the imagination, if we begin to think the imagination as a non-human capacity.

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Notes

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