

# Introduction

Coordinates (0°0' Longitude,  
51° N Latitude)

In the ledger of geologic time there are missing earths. Earths that appear only as negative inscription, underground, beneath and behind the geographical imagination of colonial earth and its discourses of purposeful extraction. Indigenous earths. Black earths. Brown earths. As planetary fractures now appear daily in the shifting world of climate, colonial earth swings in an oscillating imagination of dystopic/utopic salvation in confrontation with the new geologic realisms of the Anthropocene. Ends. Beginnings. Narrativizing new origin stories for the planet and continuing to erase older, missing, broken earths that made the present possible. As diasporic human and nonhuman geographies transformed colonial spaces with labor, hoofs, creatures, and crops they also erased geologies that belonged to other imaginations of earth. These practices of “unhoming” through the epistemic dynamism of the inhuman enacted environmental changes of state in subjectification, climate, species, and elemental geophysical flows. Alongside this geotrauma, all these dispersals carried illegitimate geographies of passion for inhuman places and things. A patch of dirt in the fat heat of summer.

As the geologies of colonial world-building led to the Anthropocene, that building required first the earth-shattering of existing relations and bonds of shared ecological and inhuman worlds. Geology and its epistemic practices were a form of earth writing that was riven by systemic racism in the building of colonial worlds and the destruction of existing earths. *Geologic Life* seeks to understand geology (in its broadest sense) as a tool of

raciality that has historically shaped the grounds of struggle and continues to shape material relations of racism into the future.

Colonial earth is the product of white geology: a historical regime of material power that used geologic minerals, metals, and fuels, combined with the epistemic violence of the category of the inhuman to shape regimes of value and forms of subjective life. As “end times” frame climate change conversations, this book goes back to look at the beginnings of the field of geology as a colonial practice that created normative orders of materiality and destroyed worlds.<sup>1</sup> I investigate how we might understand geology as an ideological and material infrastructure of matter and materialism that shapes subjective and planetary states. And how calculative regimes of geology organized both the temporal and political surfaces of power, and its racialized undergrounds.

I argue that white geology mobilized geopower to operationalize the conquest of space across the globe and below the surface, furnishing its partitions and apartheid as distinct spatial forms. Namely, through Indigenous genocide and enslavement, through the shape of colonial afterlives in convict lease and indenture, and through ongoing environmental destitution. Alongside the transformation of environments, paleontology (pale-ontology) named and raced persons as geologic subjects through the category of the “inhuman.” The designation as inhuman, used for both raced subjects and subjectless matter, diffused the violence of geology and maintained the colonial prerogative of value and its progressive scripting of extraction as a genealogical achievement of whiteness. Antagonism to white geology is also an attachment to other kinds of earths and inhuman intimacies not continually wrecked by the accumulative geologies of those practices. We can see resistant earth and ecological practices as a defining continuum of struggle against colonial forces of transformation and white geopower.

Propelled by a material teleology of extraction and abandonment, white geology practiced a secular geophysics of material determination that was justified through the paleontological narratives of **race** and **time** that literally “placed” peoples in different strata (in a stratigraphic bill of rights). Geologic time became the political time of race, wherein whiteness was a tautology of material achievement in time, and race can be recognized as a missing term in the stabilization of material value. The concept of race kept the separability of the human and the taxonomic carcerality of the inhuman intact (as *bios* and *geos*) through the division of matter, maintained through subjugating geographies and the spoils of extraction. In this current moment

of the climate-induced crisis of materiality, in the rapid transformations of worlds, the imperative to understand colonial materialisms and their afterlives in planetary effects is crucial to both materialist pedagogies of anticolonial praxis and the epistemological shifts necessary for a different earth.

The elevated plateaus of privilege and subterranean rifts of the racialized poor in colonial earth are a product of historic materialisms past and present, even as the structural and spatial occupation of whiteness—as the product of white geology—becomes a multiethnic affair. Geology was the predominant medium of the instantiation of this earth and its continued settler claims and thirst for geopower in the present. Geology explained the geophysical processes of earth to make it epistemically available for extraction and ontologically located within the development of human and planetary time. To tell a story of the rocks is to see the past surfacing in the present: a process of coming into view, of other earths. In this political surfacing we find the ghosts of other geologies sounding subterranean disquiets. Ghost geologies that testify to a certain disorientation, a gathering of a series of ruptures. To tell a story of rocks is to account for a eugenic materialism in which white supremacy made surfaces built on racialized undergrounds across multiple—political, geophysical, subjective—states. Thus, the history of colonial earth is also a map of the geophysics of race, of subjugating rifts, colored earths, racialized gravities, and Anthropocenic futures. The proclamation of universal fraternity and common futures is broken again and again by the weight of racialized gravities (that inflict the continued subject positioning of processing violence and the inhumanity of being processed by geo-logics of equivalence).

The origin story of geology and its materialization of a geophysics of race is important for how we understand the divisions between privileged forms of Life and its concomitant inhumane states of exposure and dehumanization. Historically, this book charts the origin stories of earth and scripts of race as natal twins, emergent in colonial and settler colonial worldings through an array of geologic practices. Racial and environmental determinants were coterminous in scripting the earth and its geophilosophy of human becoming in the geo-logics of colonialism, which intensified during the eighteenth century. While those concepts of environmental determinisms have been roundly critiqued, racial determinants continue to reside in the mantra of “natural resources” (e.g., the resource curse, limits to growth, questions of demography, the “undeveloped”) and other more discrete eugenic renderings of what the earth is for. I argue that this separation of earths is not constituted by a Life-nonlife (partial human-designated

nonhuman) bifurcation but through a Life-earth division (*bios-geos*) that race mediates and materializes. This means that the politics of decolonization are not primarily organized in either metaphysics or through its biopolitical critique but through the earth and its categorization. The categorization of the inhuman as a subjective register is not intended as a veiled form of environmental determinism but draws attention to a contingent “state” of matter that is involved in the subjective formation of geologic life. The imperative of a lithic-eye-view takes biopolitical critique into a broader field of reference that aligns the ground of thought with the ground of the earth, thereby mobilizing a political geology that sees subjective and earth states as concomitant states of being, collapsing the spatial function of race in the production of value.

### **Geos {race} Bios**

The stages of argument about the separation (and separability) of *geos* and *bios* that I make through the empirical research in this book proceed as follows:

- 1 *Geologic Life* is the basis of the historical-material conditions for the emergence of the biopolitical/biocentric subject (as the figure of Life itself).
- 2 *Geos* and *bios* are produced as distinct “states” of matter (not organized in a hierarchical continuum) that are productive of different geophysical subjective states and spatial formations of the plateau and rift.
- 3 *Geos* is historically constructed and imagined as a stratified temporality that produces the time of race.
- 4 Race spaces the interregnum for the differentiated production of value between *geos* and *bios*. Every question of matter, materiality, and materialisms gets passed through the space and time of race.

*Geologic Life* investigates the structural pressure of colonialism as an earth force and its undergrounded archive that is made through the unequal racialized affects and exposures to geopower. Broadly, the geographic map that I plot through this book is of the plateau of white geology (henceforth, the *plateau*) and its processes of racializing undergrounds (henceforth, the *rift*). Rather than seeing this racialized archive of colonial earth as biopolitical, I see it as a geopolitical act in the division of flesh and earth through the grammar of the inhuman. The language of the plateau pulls toward stratal

totalization. Universalisms issued from the plateau are understood as the present perspectivism of the earth—a normative earth—that dominates environmental politics and practices. Because of the geophysical dimensions of the rift and its relation to the plateau, the rift is not a space of totalization and is necessarily engaged with the specificities of its historical geographies and their shared archipelagoes of relation.<sup>2</sup> If the plateau’s language is one of hardening and categorizing stratal structures, the rift is a space of ghost geologies and geopoetics whose narration and syntax are given through persistent resistances. The countergravity of the rift requires a tender holding alongside the act of holding colonial environmental histories to account. The “implicatedness” (to use Denise Ferreira da Silva’s term) of this form of geologic life is prescient in the precarity of colonial afterlives and their presents.<sup>3</sup> Broadly, Black, Brown, and Indigenous subjects whose location is the rift have an intimacy with the earth that is unknown to the structural position of whiteness. This inhuman intimacy represents another kind of geopower learned in the tactics of relation and the theorizing of experience: tactics of the earthbound. On the graveled road that shaped the bite of grit into freedom’s dreams, the inhuman was a doorway, big enough to survive its weaponization.

Colonial earth is *extractive earth*, organized through racialized and racist relations that sustain and allow the surfacing of whiteness as a geopower (a terrorizing and territorializing force). The practices of colonialism geo-engineered territory through surface and subterranean geo-logics toward the white supremacy of the planet. The ground of colonial passage through mine, plantation, and clear-cut extraction produced an amnesiac earth of scant remembrance, as colonialism sedimented its telos of materialisms as normative. As race was coupled in the crucible of subjugation, territorial theft, and geologic unearthing, it continued to define geologic relations through these integrated modes. Race, seen through a philosophy of *geologic life*, requires a redistributed justice that understands both the affective and material infrastructures of race as geologically made, and geophysics as a product of race. Reckoning with geology (across its broad domains) points to another map that might work toward articulating the geophysical conditions of decolonization, where decolonization is a future-oriented and historically ongoing act that works against the principle of extinction that characterizes colonial earth.

As increasing attention is paid to the activities of racial capitalism and the dynamic mobilities of geomorphic change in the Anthropocene, the foundational racialization of geology is undertheorized in its histories (and

historicity) and their material presents. The task is to join the theories and concepts of deep time to the praxis of extraction across domains that function within very different syntaxes of materiality and epistemic regimes. Addressing the colonial afterlives of materiality requires expansive pedagogies for anticolonial praxis that extend the reach of geologic grammars across the plateaus of disciplines to show how they form something akin to a racialized surface. The disassociation of the racial origins of geology, I have argued (Yusoff 2018a), has consequences for the proximities and exposures Indigenous, Black, and Brown persons are expected to navigate, absorb, mitigate, and ameliorate in relation to environmental harm. That work sought to unearth the operations of race, gender, family, and nation through a reflection on the epistemological enclosures of naming, and the way these geocodes overdetermined the normative and its (negative) association of properties with some bodies and not others. In this work I want to show how the geologies of race are axiological to the production of earth states, processes, and racial gravities (while paying attention to the ongoing violence of epistemic elisions between matter and racialized subjects). An account of rational accumulation goes only so far to locate the exteriority of the desire for extracting value; it is the libidinal that exposes the interiority of that desire for inhuman power—first as rabid thirst, second as patriarchy and paternalism, third as deadening of the earth.

Metals and minerals have signaled a durational abundance that struck at the puny human limits of temporality, a mark of difference that was both challenge and provocation for overcoming. Next to iron the flesh was weak. Energy is the primary transformation of the earth, and this was also the geoforce of colonialism. Blackness was made in the same metallurgic register as gold at both a corporeal and a continental scale, where both Africans and Africa were constructed as the abundance necessary for extraction. Muscle and strength were fetishized as persons were degraded. The spatial inversion of territory as a series of buried earths for extraction enlarged the colonial and settler colonial desire for a never-ending source of the accumulation of geopower and the sedimentation of racial difference as its operative machine of unearthing. Whereas Indigenous life was framed as an impediment to the seizing of land, Blackness was invested with spatial expansion (King 2019; M. Wright 2015). Colonial earth created black holes that delivered the myth of clean extraction in the “severe maldistribution of resources” (Wynter 1996, 302). This book is about the loamy broken grounds that are left by the predatory gravitational force of colonial earth. It also seeks to account for how whiteness was able to “float” above the gravity of an earth relation.

On the insistence of Katherine McKittrick (2006) and Christina Sharpe (2016a), if we place anti-Blackness as the normative frame of geography and proceed from there, then a different cartography of reason and attribution emerges from which to understand materiality, matter, and relations to deep time. Rethinking race is acute because of the continued weaponization of geology in bordering practices and the simultaneous relocation of the foundational divisions of the material conditions of racialized life into a question of discursive identity politics or metaphysics (which thereby dissuades an analysis of the structural conditions of material reparation). This includes the need to turn the discipline of the geosciences against its empirical foundations—to begin to think from racialized rifts and decenter the normative production of its epistemes of materiality so that reparative geophysics might be built, which substantiates different geosocial futures.

*Geologic Life* takes familiar scenes of geology to tell another history/historicity, of the entanglement of the inhuman and inhumane in the configuring of agentic Life and regimes of geopower, made through colonial geology. It is not that the inhuman was an impossible outside for the colonial imagination that everything was exiled to. Rather, it was the colonial investment in minerals and metals that was commensurate with the investment in enslavement and subjugation; both these libidinal forces were characterized by the desire for harnessing geopower. The consequence of this doubling of the inhuman-inhumane as subject and object was the creation of distinct geographies that spatialized the experience of geologic life as racialized and racist. These include the plateau of white geology and its perspectivism over and above the earth (the Overseer) and the broken grounds of the rift, where racialized subjects were torn from geography and labored under the pressure of unjust gravities to substantiate every aspect of the material life of the plateau. The splitting of *bios* and *geos* bifurcates planetary life-forms into two distinct geophysical zones: the plateau (Life) and the rift (inhuman). The secret question that this geophysics carries is the following: *What material and somatic qualities allow whiteness to float (as Life) through its taproots of racial undergrounds? And how did the geophysics of whiteness (and its new ethnic formations) underpin and reproduce a particular metaphysics of the earth in service of these geophysical desires?*

A geophysics of race points to a somatic differentiation in geologic life, where the gravity of whiteness is historically produced through certain arrangements of inhuman(e) earth. White geology epistemically created and relied on racial undergrounds to bring metallurgical and mineral value to the surface. And we can think about how this paradigm of the mine

cascades through all the ways in which material value is stabilized in the present—from the jewels and skyscrapers that Aimé Césaire alerts us to, which bear his thumbprint and heelprint, to the saturated oil landscapes and palm plantations. In the context of the spatialization of racial undergrounds, the mine inside is another subjugating inhuman force that conditions the geophysical politics of the world outside. White geology, in the context of colonialism, mobilized the subterranean volume to organize surface flows of social power, including but not limited to forms of racial segregation and racist spatialities. The relation between the underground and the surface, and the politics of surfacing large quantities of earth, water, metallurgy, minerals, and buried sunshine, organized forms of capital accumulation that require racial undergrounds to function. Such racial mines—as a material and conceptual form—continue to be paradigmatic today. Racial geophysics is underpinned by the geomythology of a neutral conversion of undergrounds into overgrounds, of earth into colonial achievement. Geophysics, understood in this way as pressure and gravity that are the affectual force of geopower, accounts for somatic instantiations in the flesh of geology as a historical corporeal process of racial undergrounding in the production of space.

I theorize the rift as a geographic concept of broken grounds from which to fracture the surfaces of white geology and its forms of subjugation. The interruptive phrasing of subterranean space names a refusal to adhere to the foregrounding of utilization of the earth for the plateau. My argument about plateau and rift is not one of uplift, that we all need to be on the plateau or that the plateau is imagined in its environmental racist guise as delimiting a Garret Hardin-esque carrying capacity (see Yusoff 2018b). An inattentiveness to geology's spatial and political forms requires a historiography of its past (and thus future) grammars precisely because the slippage between the material and metaphysical in the inhuman hides the violence of geology and its role in the political subjectivity of race. Addressing geologic life necessitates an enlargement of political geology beyond its settled geologies that make its sites and objects and an imagination of the stratal relations that sustain them, alongside scrutiny of the grammars of geology that language its modes of description, organize its forms of address, and spatialize its operations.

The rift is a temporal scene and a material experience of shattered grounds. It is the messy geographies of nonarrival, the never getting to arrive because departure is not chosen but arrives as catastrophe and chasm. The endless sea that survivors carry is a restless inheritance of the broken earths:



movements and moments that ran counter to the obligated geographies of relation. The rift is also the geophysical manifestation of the psychic life of geographies' displacement, as it is a structural organization of geopower's hold on and subjugation of those who buffer earth's shocks and extract its ores. It is an elemental map of gold, coal, metal earth made through the imposition of a language of extraction. It is a map of clearance and erasure in the overwriting of value. Its ghost geologies speak to other cartographies. The rock gives forms to other temporal possibilities. Unearthing recalls buried bones and sun. The tree is a presence of something rooted and held. Geologic intimacies challenge the normative register of colonial materialities—materialities that narrativize earth as a site of improvement and settler scripting. Attending to the buried histories of inhuman intimacy has been an ongoing tactic for building another earth among racialized and anticolonial peoples. These too are the earth(s) that colonialism made. They might be called a billion Black and Brown Anthropocenes. A missing ground, a Black, Brown, and Indigenous earth, that haunts the geographic imaginations of planetarity and campaigns for a different understanding of the *geos*. Geographic imagination is a tool to lever the new and find passages to a differently imagined life. The surfacing of ghost geologies is also a way to bring things down in the world, to deflate the levitating quality of whiteness and the heavy gravity it demands to secure its stratal place in the world.

The gravities of rifts are defined not only through their obscene subjectification but also by a receptive atmosphere of holding against the temporal forces of deformation and tending spaces outside these forces. These ways of living are held in the vicissitudes of Black, Brown and Indigenous lifeworlds and in the historic geographies of community, and these stories are not mine to tell. What I have tried to give space to, beyond a reactive, redemptive countergravity, is to the radically other dimensionalities—or *geoforges*—that emerge beyond deformation and construct gravity differently, as open to the indeterminacy and intimacy of the earth and organized as a tactic within the flux (where such tactics also include engaging in settler spatial modes of property and the harnessing of geopower for sedimenting attachments in place, such as Black ownership of land during Reconstruction as an attempt to spatialize the affects of racial violence).

Colonial earth established a psychosis of materiality through the designation of “natural resources” and inflicted a refusal of locatedness through its geographies of abduction and displacement. Natural resources are a conceptualization of a specific form of geologic life and dislocated geography. Unearthing these sedimented relations and quieted histories requires an

earth politics and geopoetics that understands the expansiveness of earth forces *and* the forms of their social production as historically racialized.

What is this particular gravity of whiteness that can claim the apex of time and space as its inheritance and impose an anti-Black heavy “weather,” in Christina Sharpe’s (2016a) terms, and how is it materially and empirically made? I understand this gravity not as metaphoric but as geomorphic: materially manifesting as a geopower geometry that is routed through narrative accounts, geologic grammars, and affective architectures. Racial gravities can be understood through a historical lens, as temporal and material forces of deformation that “land” on the present through the efficacy of colonial earth. Gravity is a historical set of conditions that creates the coordinates of falling, as well as the counterforce of its opposition, where space bends to grow around the untimely absence of the *shock forward*.<sup>4</sup> The durational effects of racist gravities affect spatial formations and the possibility of moving in space upright rather than weighted, free rather than oppressed, but they do not condition the grace of movement or the imagination of other geophysics of being. The time of racism (the time it takes and the spaces it makes) is connected to the operation of geo-logics of deep time and the establishment of racialized populations zoned within broken grounds inside rather than outside of the spatial-geophysical production of whiteness.

Narrating broken grounds, I explore a pedagogical countercartography to normative modes of materiality—as they are expressed in resource extraction, utility, and settler modes of apprehension and its geopolitical organization of the earth. The collective challenge is to find words that stand against the renewing tide of natural resources, understood as the normative and devastating language of materiality. Akin is the task to make models of kinships that would permit a rock in the family and a shared gravity in the shocks of the earth that might make a much-needed climate commons.<sup>5</sup> The central claim of this book is that geology is always racialized and that race is a geologic formation (rather than primarily a biocentric/biopolitical concept), and thus racial violence is the violence of matter, and race must be considered as a geophysical operation. Rather than arguing that geology demonstrates or mediates racialized relations, I argue that race is foundational to the production of knowledge about the earth within a Western episteme, and that a geologic understanding of the time of racial difference is foundational to racial violence and the possibilities of place. The historical geographic claim here is that race and geology are coterminous and so cannot be conceptualized as divisible realms (which maps onto the differentiated fungibility of geologic subjectivity as it is mediated by

geopower). This inheritance is why the politics of race need to be reconceptualized in a geologic field of relations in the context of climate and Anthropocenic changes.

Colonialism is an expression of *geotrauma*, and geology operationalized and institutionalized its statecraft as grammar, imaginary, syntax, and material praxis through the tight intimacies of the inhuman and inhumane. Colonialism was *geologic-fiction*: the transformation of land, ecologies, and forms of relatedness within interdependent forms of geologic life into a discourse and practice of materiality (and then commodities). Which is to say colonialism practiced an extreme form of materialism that transformed the planet and its geopower to extract and explicate value in such a way as to build a new earth at the scale of the planetary. Understanding the combined material effects and psychic affects of geotrauma is to see the earth as a product of colonial relations, and the replicability of these relations of extraction through ever-more intimate forms of life as the process by which earths, bodies, and relations change state. Scientific research tells us that the earth is one of many possible earths and all material states of being are contingently anchored in the variability of the earth itself. Geologic empiricism pushed far enough organizes an epistemological statement that a different earth is possible. The “social” in the geosocial formations of the earth is a geophysical modifier for other formations and ways of being drawn to the earth. In this sense, the inhuman points to unregulated forms of existence. This elemental largesse, which could not be contained by colonial categories, was the basis of the existential challenge to Enlightenment materialities, as it was a source of liberatory possibilities for those caught in its conceits.

Rather than assert the veracity of the stratal pressure of race, I seek to show how anti-Indigenous, anti-Brown, and anti-Black gravities are created across time through the knowledge networks and practices of deep time (understood as location device, narrative, and structural relation). Secreted in geologic grammars and hiding in plain sight through disciplinary divisions, *race travels in earth archives as the flesh of geology*. Thinking with this idea of the *flesh of geology* (with reference to Hortense Spillers’s 1987 argument about how subjects become rendered as flesh in the context of enslavement), I understand this concept as being both about the specific historical embodiment of geopower in the afterlife of colonialism and about how subjects are designated as inhuman matter in the grammar of geology and subjected to the power of those earth forces. The division between body (in a biopolitical sense) and flesh is an essential category difference between a *captive* and

*liberated subject position*. Dominance of normative accounts of materiality (as natural resources) regulated, spaced, and languaged the split of *bios* and *geos*, making colonial earth a riven landscape. Geologists in the seventeenth and eighteenth centuries oversaw the configuration of racial identity in paleontology and the identification of geologic resources and their narrativizing in field surveys, and thus race was made in questions of the ground and its value rather than through the signification of the body per se.

The move to make race a space of negotiation between the body and ground is precisely how the theft of land was justified and bodies were submerged into inhuman political signification, where epistemic violence was enacted through material and temporal designation of subjects in the figures of slave and indigene. The subtraction of *geos* from the scene of colonial encounter conditioned the displacement of Indigenous peoples and the reshaping of the earth under a colonial genre of materiality. Because of the required fungibility in the operationalized identity categories of slave and indigene between person and inhuman, a porousness existed that was both the result of and prior to those structural positionings and subjugating violences. What I am suggesting here is the opposite of a romanticized “closer to nature” discourse, and more in the register of paraontological tactics that emerged in this forced margin of the inhuman(e). The flux of temporal abandonment—whereby subjectivity was cast into different strata in the narratives of racial achievement by eighteenth-century geologists—made planetary flux, or tactics for subterranean life, a condition of experience and survival. Temporal scripting, then, happened from above and below the geologic plateau and its institutional transcripts of deep time.<sup>6</sup>

It is a mistake to understand race as a biopolitical concept when it is materially and conceptually grounded in the earth in advance, and the focus on *bios* covers over the racial deficit of the spatial extractions underway.<sup>7</sup> The continued subtraction of *geos* from questions of race reperforms the initial severance of relation that mobilizes race as a governance between Life and the inhuman. Part of my research agenda has been to resubjectify geology: seeing *geologic subjects* as implicated and entangled in epochal and social shifts. On one hand, this means understanding the inhuman story as a subjective and subjugating historical geography that involves distinct racialized relations with the earth. And, on the other, it sees the relation between inhuman and inhumane as structurally bound to extraction in the praxis and grammars of geology that elevate Life (in mastery over geologic grounds). Rendering subjects as inhuman matter, not as persons in the *geocoding of bodies*, facilitated and incorporated the historical fact of

extraction of personhood as a quality of geology at its inception (enslaved persons racialized as property, energy, and flesh of geology). The historic division between *geos* and *bios* is the rupture or rift on which race is made (the inhuman-inhumane is the most obvious example). There is no “better” biopolitics. Racial justice is intimately tied to environmental justice as its precondition and the possibility of another earth.

In the formal epistemic separation of *bios* and *geos* in the eighteenth century through the discipline of geology, race became the modulator and mediator in that spacing to hold together what cannot be separated.<sup>8</sup> Through this division of *bios* and *geos* a preferred form of racialized Life emerged to stand for all life (as per Sylvia Wynter), and inhuman (as *geos*) was organized through the properties of dislocation and dehumanization in the pursuit of value. Although this fiction of Life’s internal divisions is known (see Wynter’s [2003] account of partial humanism), the deep structures of geologic grammars mean that this division is the a priori condition of encounter with material agency that must be continually overcome in Western epistemologies and material politics. There is a deep forgetfulness that is engineered by the separability of these two terms (*bios* and *geos*) in epistemologies of thought, practice, and valuation—meaning that the deep residues of race are operative in every material transaction (with or without a subject). It is my contention that you cannot think about the climate crisis, extinction, and biohazards (viruses, toxicity, pollution, etc.) without thinking about race and the way race violently mediates and maintains the *geos* and *bios* border. The separability of *bios* and *geos* is an instrument of power in the governance of geopower. The geo-logic of extraction is reproduced in this space-ing, as well as the strange apparition of whiteness as a condition that “floats” above the earth (where this spacing establishes the geophysics of being as above or below the earth; plateau and rift). So, a subtext to this project would also be bringing whiteness back down to earth through the dismantling of its historic mantle of geosocial forms. In parallel, the concept of geoethics might be seen to designate a juridical body that floats in a non-material space of consideration (whether that be political, moral, or epistemological space). An antiracist geoethics would have as its methodological task the grounding of that Enlightenment body of thought into located bodies and geologic lives. The recovery of specific racial geologies is an alternative way of forging the methodological repair necessary to account for Black life (Woods 1998; Roane 2018, 2022).

My claim is that different “states” of being are not primarily the product of a metaphysical operation but are constituted by geo-logic codes that

produce a modality of geophysical states. This production keeps subject formation in constant dialogue with colonial earth (often bound to its violent vicissitudes) and anticolonial earth practices. To understand the amalgam of earth and whiteness requires reexamining our understanding of the material and subjective dimensions of geologic histories and the geosocial contours of subjects. If whiteness established itself through the bifurcation of *bios* and *geos*, this severance is made in the historical geographies of geology as paleontology and surveying, and in the ontological and geophysical formation of the inhuman as subject, material, and resource. If geophysics is the prior condition to the coordinates of subjugation, racial justice requires a geophysical mode of redress: or, geoethics for an antiracist earth. *Understanding the geologic dimensions of oppression* is part of challenging the weaponization of environments and alleviating the quotidian exposures of racialized subjects to geochemical residues (categorized as pollution and poison) and geographical displacement.

In this book, I want to show *how* stratification (of temporalities and thought) participates in the governance of forms of racialized life and creates anti-Indigenous, anti-Black, and anti-Brown gravities across deep time. An explication of how the plateau of white geology functions as a form of geologic life is one step toward its dismantling. I offer this book as re-description (and reorientation) of terms through the analytic of geologic life, as empirically grounded geophysics that connects the social struggles of race to their geologic expression and material manifestation. My goal is to provide new sites of consideration in the materialities of racialized struggles and liberation, which is also to understand description, disciplines, and analytical diagnostics as participants in material modes of oppression and their directionality (as imperative and futurity). To put this the other way around, epistemic insurgency—here, insurgent geology—is crucial to the knotted work of racial justice and environmental conditions (in that order). If strata are *the* ontology of the Anthropocene (understood through the stratigraphic imagination as destratification of environments and the desedimentation of subterranean spaces), geology is its epistemology, plotting those ever-more chaotic stratal chasms into the future. This tectonic shift of political geography through planetary time in the present is a product of these colonial histories of the past.

A critique of “the earth that colonialism made” is also an epistemic argument against the separatedness of disciplines and practices in the ledger of geotrauma. This is the epistemic violence of division. Joining up the plateau of these interrelated forms of geologic production provides the perspectiv-

ism to imagine its dismantling and defamiliarizes the acts of white geology. Racial categories function because they adhere within the dynamics of social space across domains rather than in singular epistemic regimes. Understanding what creates the plasticity of the plateau and the stratal pressure of whiteness requires a map across domains of geology, its material and economic practices, its knowledge economies and epistemes, its geophilosophies of nature, and its structuring device for the “ground” of thought and the emergence of social and subjective forms. The bifurcation of disciplines is part of how the world is hidden in plain sight, how meaning is obscured, and how the recognition of other “grounds” that challenge and defamiliarize the normative forms of geologic life is submerged. What interlocking epistemic collaborations between the earth sciences, philosophy, judiciary, natural history, literature, mining, plantation farming, and economic botany have made colonial earth possible as a planetary proposition?

As a material practice of arranging the inhuman dimensions of the earth and an account of materiality, geology functions as an *affective infrastructure* of the politics of the inhuman from which Life is understood to differentiate, deviate, and subtend itself.<sup>9</sup> Geology is at once a set of historically located practices, epistemologies, and a more diffuse ontological marker for the inorganic that stands in for the concept of inhuman matter. In this book, I range across these material and metaphoric historical geographies precisely because of the collaborative work that is done between these interdisciplinary domains to create geoforces that shape the material world: racial, social, geophysical, political, and conceptual. Geology delimits material identity, it identifies and categorizes to make materiality mobile as an identifiable unit of valuation, as equivalence and exchange, universalized as natural resource. Geologic grammars cut mineralogical affiliations, rocks caught in the geochemical, fluvial, and geomorphic embraces of depth, pressure, and dispersal. Stratigraphy identifies and dislocates matter from its sedimentation and mobilizes it into the present tense through a material manifestation of temporality.<sup>10</sup>

Geology is so politically potent precisely because it both cuts matter through its grammars of description (as an execution and extraction that makes objects, modes of exchange, indices of valuation) *and* gives matter an origination narrative in the earth and natural causation. These geophilosophies naturalize the concepts of stratification and genealogy of life across domains (in ways that sediment in social and political structures as normative claims). Through the double action of cutting and grounding, geology (as a discipline and practice) performs an onto-empirics that acts



to simultaneously master matter and make available the geography of the earth for transformation. It is *the* origin story and *the* ontology. This colonial narrativizing of geology is the historical geography of the transformation of matter and energy as the basis for subjective life and the diversity of its forms. There is no ground but the earth.

*Geologic Life* is concerned with taking on the shared lineages that compose the history of geology as a science and field practice, emergent in the late fifteenth through nineteenth centuries as a Eurocentric field of scientific inquiry. I approach this not through a linear historical geography but through undergrounds (as footnote, mine, appendix, subtending strata, and stolen suns) that reveal the subterranean currents and spatial proximities that run through the dual categorization of inhuman as mineralogical material and subjugating forms of life in the categories of race. The rifts that I draw on arc through a long history, beginning with the invasion of the New World in 1492 and through waves of imperial, colonial, and ongoing settler colonial moments, across the geographies of the Atlantic and Antilles, to argue that geology and race establish the affectual infrastructures of material world-making. The relation is ongoing and overlapping with the devastations of the political present and its racialized environments. My contention is that geology continues to function within a white supremacist praxis of matter in its current geophilosophical formation (Anthropocene) and material presentation (as extraction, environment, and climate change). I pay particular attention to this history of *white geology* as a material-metaphoric grammar that structures thought and earth in Western epistemologies to operationalize planetarity and to show how this homogenizing of space and time through matter economies is challenged by the theoretical praxis of its racialized undergrounds, established in the Americas and Caribbean (and many other diasporic spaces and Asian, African, and Pacific grounds).

Geology—as material metallurgic practice since 1492, a formal modern discipline since the 1700s, and the conceptual armature of materiality, inhuman classification, and parsing of deep time—is implicated in what Rinaldo Walcott (2021) calls “black life forms” in the long emancipation. Geology has shaped Black life in symbolic, geographic, and stratal realms. The structural trajectory of anti-Indigenous, anti-Black, and anti-Brown racialized strata was inaugurated in colonial earth through the theft of land and the mining of the Americas, was sedimented in the fluvial plains of the plantations, the sea graves of the Caribbean, and the ocean “beds” of the Middle Passage. White geology is a violence that contemporaneously accumulates in bodily burdens of toxicities and proximities to harm that is called environmen-



tal racism but permeates across much more subtle color lines in the grit and exhaustion of trying to live in a gravitational field that is organized around your subduction. White terra was white terror on colonial earth. In short, this book seeks both to make the deceptively simple claim that racial difference is enacted through the philosophies and praxis of seventeenth-through nineteenth-century geology and to show how this was done and why it matters to the racial geophysics of now.

I use the term *geologic grammars* to mean the epistemes of geology as material, theoretical, and temporal praxis that surveys, categorizes, catalogs, and classifies minerals and the broader divisions that are established between Life and the inhuman. I attend to the origins of geology as a material colonial practice and a discipline that emerges in the wake of this extractive culture to furnish its ideological principles, conjoining the European colonial conception of (1) the earth as Global-World-Space; (2) the “History of Life” as a genealogical principle of racialized lineage; and (3) the Human coded by white apex or plateau.<sup>11</sup> In this triad of space-time figures, the earth becomes the mutually constituting ground both for implanting eugenic notions of progress and biocentrism under Humanism and for furnishing the material development and consolidation of European (and then settler colonial) white supremacy states through the accumulation of geopower.

Matter functions, then, as the normative regulator for racial formations in the maintenance of the extractive commons. The classificatory languages of property, properties, lineage, purity, refinement, improvement, base, organic, inorganic, brute, and inert function to establish hierarchical social and material systems as hegemonic. Thus, the spatialization of deep time, as the “ground” of a History of Life, becomes implicit in the ascription of race and of the extractive economies of empire. Furthermore, the languages of formation, deformation (process and outcome), strata, stratum (subtending, eruptive, etc.), and sedimentation (accumulation) and the qualities and dynamisms of time of the geologic (deep time, prehistory, natural history) become the very registers through which Western thought is formed as a self-ascribed active participant in worlding, resulting in a geophilosophy that is also a form of material and social geoeengineering.

In this research I have sought to account for the construction of stratal acts of compression and the mobilization of a stratigraphic imagination in the constitution of an epistemic “whole” of material environments. As counterforce, the disassembly of material forces of oppression is an interdisciplinary project that must move against the apartheid of normative knowledge production and the “extreme discretion” (to use Saidiya Hartman’s

term) of the geosciences in addressing the role of race, gender, and sexuality in constructing the earth, as well as policing the separability of life from earth(s) in struggles for liberatory and possible futures. Acts of description in geology entail acts of desecration. The question of how to revisit geotrauma in a reparative mode and not renew its racialized desecration of collective geologic life is equally a question of epistemes of language and relation, as it is of the material infrastructures that deliver its affects. How can we remake the world if we do not give space and place to the sedimentary affects of geotrauma?

I personify geology in the position of Overseer, as a practitioner in the geoengineering of the earth and as a codifier of racial transactions in the optics of capture and extraction. Part of the work of unmaking the historical infrastructures of colonial earth is to shift the language and grammar of apprehension—*geo-logics*—and displace the normative regulatory language of extraction (most notably in natural resources) and its dual psychic placement of permissible extraction in racialized and gendered bodies. Colonial earth is defined by the spatial perspectivism of the Overseer's carceral look (since 1492): from the conquistadors' thirst for gold from the bow of a ship, the surveyors' technical gaze over landscape and into its depths, the imagined scopic regimes are from the fort, the castle, the skyscraper rather than the view from the undergrounds of the mines and doors of no return. The Overseer is linked with the geologic gaze and the graze of extraction over bodies, land, and relation. This geologic optic mobilizes a perspectivism that captures geopower for material, cartographic, and racial extraction to make whiteness a geologic superpower. This racial deficit model is a tectonic process that exerts pressure on forms of life below. The sheer weight of the plateau on every other form of planetary existence means that this geologic colonial exoskeleton, brought about by a desire for a transcendental form of whiteness, has triggered forms of foundational collapse of the very grounds of geologic life. If we single out the desire for supremacy from the modifier of whiteness, then the material dynamics of what is at stake become clearer. Supremacy is, in Friedrich Nietzsche's term, the will to power; it is power desired as a feeling of elevation, an affective state, geophysics that defies gravity. In short, supremacy is a will to geopower. And the color of that supremacy in colonial earth is white. The earth was used to buttress and narrativize the desire of racial supremacy as a geologic condition. It is not just that environmental determinisms scripted the earth in the *geo-logics* of white supremacy but that the persistence of racial determinants of difference outlasted the discourse precisely because they were scripted through the *geo-*

engineering of the earth (a set of processes seemingly unconcerned with questions of race). That is, race was materially made where nobody thought to be looking for it—in geology—because it did not have or need or depend on a human subject at the center of its analysis or empirics. And so, the question of racial justice and the question of giving the earth another future (beyond the cascade of ongoing extinctions) are intimately linked.



This book started with a line of doubt about what geology was and what kind of earth it made in its descriptive and extractive processes. Books have seams and layers that relate to other work that does not always make it out in the world. The doubt I followed was written through the footnotes and strange juxtapositions of racialized bodies and rocks, of accounts of stratal formations and Negro church singing (Lyell 1845; Yusoff 2018a, 74), of overstated claims about the politics of the time and the politics of end times to circumnavigate race-making. The insistence on what is and what is not geology policed subjectivity, and this was not incidental or accidental to how geologic lives were made. The subtended strata of race that white geology enacted could be found across underground tunnels and prison mines, through the footnotes of epistemic orders, and in the accounts of the work of geologists and their “discreet” race work in natural history and state institutions. Another map emerged of stratal pressure and subjective deformation, a geology of race that haunts the present. The violence of geology shadows the dusty corners of the archive, the footnote, the subjects that “carry” theory to the academic page and as “proxy” for degraded environments in policy reports. There is a historical and psychological underworld that centered and reproduced whiteness as an immutable value, like gold, executed through an extractive field of relations that was sustained by transformation of the earth.

It is important to state at the outset that this book centers white geology to dislodge the centrality of its claims and the normativity of its material-subjective praxis. I make these arguments primarily through the historical geographies of geology in dialogue with whom and what these geographic imaginaries projected over and into. In centering white geology, I have chosen to follow its epistemological muscle that denotes the affective and managerial infrastructures of race so that the profound consequences of its operative geologies might be seen more clearly. There is, however, a cost, which is the decentering of predominantly Indigenous, Brown, and Black thought

around the temporalities of justice and the focus on the contemporary geologic struggles over “relatives not resources” (#Pipeline3). In reckoning with white geology, I do not want to reinstate those power geometries but to map them across the disciplinary divides that would keep them as discrete domains to redress these divides and the production of knowledge in my disciplinary home of geography, earth sciences, and the environmental humanities. I believe that the examination of geology has profound consequences for racialized presents and the kinds of futurity that are imagined in the context of intensifying environmental shifts and impacts. I do not think the white academy can adequately sit alongside the most radical dimensions of Indigenous and Black thought without itself doing the work of understanding how its own ontologies of the ground are sutured into the fabric of earth, its racialized architectures, and subjugation of subjects. To that end, I am suspicious of origin stories that gesture toward a totality of explanation and the selective “borrowing” of Indigenous, Brown, and Black thought in the service of white enlightenment that goes on in the academy.<sup>12</sup>

Alongside the critique of colonial earth and its geologic life that organizes this work I offer a density of description and theorizing—a thick time—that allows other possibilities to surface that are already conversant, in resistance and refusal, with the violent grammars of geology.<sup>13</sup> The geographies that inform the book’s content are broadly based on my fieldwork in the United States and in colonial British archives—a tale of “geology goes to America and becomes a superpower.” I focus on this specific historical geography because it is where professionalized models of geoengineering space become theorized and standardized in relation to colonial and settler colonial aspirations of extraction—aspirations that are predicated forms of racialized erasure and enclosure.<sup>14</sup> Historically, the disfigurement of racialized subjects—ongoing violence against Indigenous peoples and resistance to Black freedom and bodily autonomy—becomes the prerequisite for another set of subjects (geocoded white) to enjoy a “distanced” and controlled relationship with the dynamics of the earth. The outcome of this colonial earth experiment of terraforming through *terrorforming* is both the production of the apartheid of geologic life and an increasingly unstable planetary ground. The colonial imagination of a universal geography was predicated on racialized forms of undergrounding in social space that established a dynamic of underground-overground that became planetary in its modes. This spatiotemporal model of differentiated geology and its “analytics of raciality” (to use Denise Ferreira da Silva’s 2001 term) requires a structural analysis of temporal orders and the narrativizing of time, alongside an understanding

of the geomorphology of space.<sup>15</sup> The coupling of the global imagination of human origins as a racialized hierarchy of time in the eighteenth century by paleontologists sat alongside the colonial aspiration of empires to transform the earth for the accrual of global geopower. As race spaced the inhuman gap, racial categories indicated distinct kinds of racialized geophysical relations in the constellation of what it meant to be a differentiated geologic subject, where geopower = racial power and racial power was exerted through anti-Black, anti-Brown, anti-Indigenous gravities.

*Geologic Life* is an attempt to understand those historic structures that govern thought and its material transformation of the earth—transformations that are destructive to Black and Brown life, as well as a multitude of forms of possibilities that constitute the expansiveness of the universe. I want to be clear about the centering of the material production of race in the critique of white geology. I have no desire to reproduce the tight strictures of identity politics whose histories I seek to dismantle or to delimit the geographic complexity of diaspora and the experiences of racial regimes.<sup>16</sup> I am concerned with how the colonial model of extraction has become a material principle that governs the production of planetary relations to matter and stratigraphically racialized relations to earth, and with how social theorists have mapped the stratigraphic imagination of earth processes into analytical models of society and social processes. I am by no means the first person to observe that racialized epistemes underwrite colonial space and its settler colonial presents. Race has been largely addressed in the context of questions of identity, geographies of diaspora, and the history of biology (as race science and as a governance of the body politic), as well as in the sphere of territory as a governance of land and minerals. There is a lacuna in work about how geology conjoins the political life of territory with the geologic lives of bodies, and how these are structurally sedimented across deep time and activated in the geophysics of space, so that the rift and the plateau are made into racially defined formations that govern the gravity of forms of geologic life. Which is also to show historically how the spatial dynamics of geopower and its extraction are made into racial power. The rift is a consequence of the colonial earth but not defined by its ends, and so might be understood alongside Frantz Fanon's (1963) concept of the abyssal as a space without definable grounds and with different durational qualities. The expansionist and exterminating geographies of colonialism discussed here are written in conjunction with an attention to the extractive grammars that are institutionalized to establish dominant power relations through descriptive modes (geographical imaginations and aesthetics).

As the map established the mobility of power over territory, so extractive geo-logics established a dominant interpretive grid of the division of land as resource and property and the regulatory division of the surface (and its political “present”) and subterranean spaces and their deep time. These extractive principles shaped material relations and the affective infrastructures of neoliberalism’s nows through racial capitalism, organized around an epistemic system of value of the human and inhuman, and its racial and gendered subjectification (see M. Wright 2015). *Geologic Life* focuses on the historic geographies of colonialism and its afterlives, but it is imbued with the archipelagoes of thought that emerge in Édouard Glissant’s errant method. My method is isomorphic. This argument runs through the spaces that I am implicated in. Because I am a British citizen, my taxes continued to fund until 2015 the payments of the 1833 debt to compensate slave owners who shaped Britain, North America, and the Caribbean. The scholarly library where I was able to read original imprints of geologic texts sits on a square with the headquarters of key mining industries and their private equity brokers—Rio Tinto, BP—interspersed with the naval, military, and East India clubs. The Geologic Society that originated through funding released from the legacy of British slavery financial compensation is up the street. Charles Lyell, who wrote the matrix of race and geology through his *Travels in North America*, stands, marbled, outside the Royal Academy next door. The underground station has a facade of 150-million-year-old fossils, sea strata captured in Portland stone, and the London Stock Exchange is still the largest trader in the world in mineral and fossil resources, shaping worlds within worlds, one plateau at a time.<sup>17</sup> The key mining industry lobbying organization, the International Council on Mining and Metals, is based in London, as is the global metals price-fixing mechanism that sets the daily London Fix Price of precious metals determined by the London Bullion Market Association, and the London Metal Exchange mediates the indexing of value. Now, I sit not far from the zero degrees of Greenwich Mean Time that flung the lines of longitude across the globe like a net to secure British sea and geopower. These dense geographies participate in the geophysical realization of the Anthropocene and the ever-resurgent wake of white supremacy, where race is made to work forever essentializing categorizations of people to sanctify their permissible attachments to places and possibilities.

Racism is an inhuman idea, inaugurated and instituted through material ontologies—one that renders subjugation through a form of material debt burden and material psychosis that is organized around the stratal idea

of whiteness as structure and position. Most important, these ontological categories of the inhuman-inhumane claim actual experience and hurt in ways that smother the density of those lives. The differences are important. Racial difference is embodied in exposure, as it is lived as weight and history. My relation to this anti-Black and anti-Brown violence is to rework the colonial archive and its world-making, with the worlds that are compromised and destroyed in reciprocity with its coming into being, worlds in which I am professionally and personally situated. As a “junior partner in whiteness,” to use Frank Wilderson III’s (2010) catchy sluice and slice for the Brown, I see this work as a structural redress in the grammars of geology and their deadly enclosures—rocks thrown at white geology for a different imagination of geologic life.

My idea for geologic life didn’t start here. It was launched on another plateau on the Ross Ice Shelf in Antarctica, with its time-bending perspectivalisms and inhuman conditions that denaturalize Life’s planetary claims (Yusoff 2005). In the long arc of the work that followed that exposure, it became increasingly clear that there was no way to speak about rocks without white supremacy, extraction without race, climate change without scientific and environmental racism. It took time to understand how theories of the earth were involved in the erasure of geology’s silent partner in matter, the inhuman as a subjective form. The absence of a discourse on racial justice in the academy demonstrates how the connections between environmental thought and race have been studiously overlooked. The clear and beautiful reckoning of Toni Morrison might secure the point of the project: “to question the very notion of white progress, the very idea of racial superiority, of whiteness as privileged place in the evolutionary ladder of humankind, and to meditate on the fraudulent, self-destroying philosophy of that superiority” (2019, 180). To translate this into material relations is what I wanted for this work, to question the grammars of geology and the natural state of whiteness as a right to property. The white supremacy of matter is my intellectual inheritance and professional genealogy as a geographer even as I have lived a raced life. My idea was to construct interdisciplinary bridges between the classifications of the natural sciences and geophilosophy, to draw out the hidden violence and suppressions that create an episteme of the earth. Geography’s and geology’s legacy of mapping of space, materializing the extraction economy and stratifying social relations, makes them the most colonial of all disciplines. And as the discipline’s illegitimate offspring, I write toward a new language of geologic relations.



It is worth remembering that the unnatural being of whiteness was a deliberate cut, an incision in geologic life, to forge a supergeopower. Paleontologists argued *for* the unnaturalness of whiteness, its levitational qualities, above and over the earth, and all who resided in that other “inhuman” category. This was the argument that geologists were making: supremacy through the epistemologies of material extraction and earth transformation. They just hadn’t figured on quite how unnatural they would become. James Baldwin (1955) named it the lie of whiteness. The colonial photographers and planners must have known it, as they arranged naked and defiled persons in genealogic groupings, children and parents without hands for keepsakes to send back home to Belgium, burnt and hanging bodies to circulate as souvenir postcards, and Harvard chair Louis Agassiz’s secret velvet-lined cabinets of his most intimate horror of Black subjects. All the skulls and skins and sliced-up flesh in the museums. Science and scientists made the story respectable. All the cabinets of crania and labia neatly labeled. All the life taken, and breath withdrawn. The shock forward of violence and what it takes. This was the exchange for the levitation of whiteness and the earth it made. It is still the exchange. And it will be, until the inhumane in the heart of the humanities owns and works against its inheritance rather than participating in its ongoing social reproduction.

The methodological implication of concentrating on colonial geologies is to obscure the density of life lived otherwise (Frodeman 2003). The poet Dionne Brand reminds us of the shortened life of the colonized in this temporal approach: “Conquest makes the life of the Conquered seem brief. . . . All their lives collapsed into one life. A summary” (2018, Verso 40.3). Colonization reset the clocks and, thus, it reset time and space, and controls through the production of its origin (and its genealogical reproduction). I often wished that this was a different project, something more expansive than the confinements of these temporal shafts. But I write from geography and a belief in the importance of challenging spatial expressions of power and their material manifestations. To whom I write is a different matter entirely.

I want to bring geologic materialism into the open so that it might find some redress as a site of witnessing in the geotrauma of colonialism and the geophysics of the day. Those who live this and fight for the visibility and remediation of the connection between racialized and environmental life know this already. As a geographer, I understand that there cannot be any livable environmental conditions without Black, Indigenous, and Brown freedom. There is no way to write about geology without race—matter, water, earth,



air, oil, soil, phosphorus lightning, structure relations of power and possibility, and the sediment of anti-Blackness and settler colonialism—as geologic grammars organize the material conditions of life, its poverty and joy, in the rough textures of its resistance. But disciplinary silos and the political representation of ontological categories do their work. Only the privilege of whiteness and its organized categories of disavowal allow the erasure of the world it has raced—raced for extraction and exposure. This work is a bridge, then, an underpass or tunnel beneath the confidence of surface structures, a place to cross over disciplines and genres in the rifts of race and matter, to find some different earths, some less wretched relation in the structures of the white supremacy of matter, written as the planet burns.<sup>18</sup> These are violent histories, and there is hurt in their surfacing. But there are handholds of endurance, patience, and joy too. To read geology only as colonial telos is to read too much into the accomplishment of that world-building. In these resistances other orders of time quietly (and forcefully) challenge the opaque liquidity of the surface to imagine the day differently. In the place of the plateau and its subject in Overseers' earth, the thought that lives in its rifts is inventive precisely because it is attentive to the ground in which it traverses and builds. The rift only appears historically as rift because of the geophysics of the plateau and its levitation through subjection. However, the rift is not just a negative placement but a different perspectivism and spatiality that exceed the dialectical (or inverse) relation. It is subtended and broken by colonial earths, but it also is a space of its own that has a different geography, gravity, and dimensionality.

i began to think of body  
as {an absence}  
my body became multitudinous  
as the ground is vertiginous  
no longer reliant  
on gravitational pull  
our body was  
no longer the book of bone  
the detrimental predisposition  
that took hold of us  
in the depths  
was now  
luminous  
(lfe 2021, 67)



The book is divided into three parts that examine geologic life and the geospatial emergence of the plateau and rift and its concomitant geophysics. Part I, “Geology’s Margins,” examines the marginalia of geology in stories of Life told through the geocoding of racially differentiated bodies and the analytic of the rift zone told through the methodology of underground aesthetics. Part II, “Geologic Histories and Theories,” examines the empirics of stratal subjection through stratigraphic philosophies, grammars, and the emergence of geopower as an analytic to apprehend and govern the geophysics of the strata. Part III, “Inhuman Epistemologies,” examines the empirical manifestations of the inhuman in the Southern United States as deep time, undergrounding, and genealogy in the convict lease mines of Alabama and the black earths of urban modernity. Finally, part IV, “Paradigms of Geologic Life,” looks at the mine as a paradigm for the racialized organization of geologic life.

# GEOLOGIC LIFE ANALYTIC

**PROBLEMATIC:** To share life on the surface with others and contingent “deep” earth (other geologic eras and their interests/affiliations; contingency of earth as already many and multiple) in the context of a new historiography of the Earth called the Anthropocene.

**CONTEXT:** containment/extinguishment/enclosure versus every resistant thing (and the imperfect organization of that)  $\geq$  struggle of “relatants” (Glissant)<sup>1</sup>/“existents” (Elizabeth Povinelli) outside of biocentric modes and the imposition of racialized arrangements of Life.<sup>2</sup>

**DYNAMIC:**

- 1 Rising tide of late liberalism, *this thing we're in*  $\leq \geq$  toxic and destabilized geophysical/geobiological processes, *pyroearth*;
- 2 The reorganization of “every resistant thing” as soon as it shows itself (or surfaces from the subterranean) under racial capitalism and its ontopolitical affects;
- 3 Colonial Geology’s anti-Indigenous, anti-Black, anti-Brown Earth policy

**LOCATION:** **Rift** as: (1) **Geophysics** of the earth<sup>3</sup> and (2) **Geoforges**, “quiet” (Camp 2017)/subterranean/quasi events (Povinelli 2016); “senses as the-oreticians” (Wynter riffing on Karl Marx); **Geopoetics/Geoaesthetics** as decolonizing force (Glissant; Césaire; Elizabeth Grosz; Ferreira da Silva); Underground as Undercommons/abyssal depths (Fanon; David Marriott; Fred Moten); Wayward Lives (Hartman) or just killing the script.

**TARGETS:** genealogy<sup>4</sup> + colonialism > [well-critiqued arrangement of the family-nation] *but* also a “toxic genealogy” (Brand), the site of the categorization and resolution of geologic settler colonial grammars that are anti-Black and mobilize a specific conceptualization of the arrangements of (biocentric + geologic) life around that anti-Blackness in the “slave-mineral complex” (anti-Blackness ≠+ extractive property and properties relation = geologic grammars of settler colonialism and slavery) + settler colonialism in the mastery of matter.

The color of Reason: Fear of an inhuman planet  
(black/bla\_k\* M. NourbeSe Philip)

Natural Philosophy = Moral + Racial Theory<sup>5</sup>

Theoretical Formation of an Anti-Black Planet  
through colonial geoengineering

**TARGETS ARE ON THE BACK OF:** Blackness; Indigeneity; Brown; life on earth; “resistant things”; “open boats” (Glissant), subjects caught between environmental inundation and hardening of geopolitical borders.

**TASK:** Establish a grammar of geology after biocentric Life and geo-logic enclosures governed by the *extraction principle*.

**GEO-LOGICS:** Politics of Inhuman, Nonlife, Political “presents,” Earth

CONCEPTUAL MATTER: Materialism; category of the Inhuman;  
Subjectivity-Relation, redress to materialities of subjugation.

HOW: underground aesthetics, Rift Theory.

**INTERLUDE:**

SCENE: Colonial Earths—Broken Earths

QUESTION: How do these histories of the racialization of matter *matter* for the political present and the alleviation of its racial gravities? How do these histories materialize the building of worlds and navigation in a world on fire?

STANCE: Geologically Invaded: invocation  
to open the paths of the geologic.

ANALYTICS: #**GEOLOGIES OF RACE**: the historical organization of materiality through colonialism and its afterlives in the present. The present pasts of geology.

#**GEOLOGICREALISM**: geology made manifest by the three ways of the Inhuman:

- 1 **Matter** that is understood through the normative lens of *natural resource* and philosophies of Reason (Nature-Culture divide) that established modes of enclosure and capture through geologic grammars of identification and valuation.
- 2 **Race** constructed in the discipline and practices of geology (through the subfields of paleontology and comparative anatomy), forged through the praxis of *extraction*.
- 3 **Relation** such as alterity, outside, cosmic, inhuman, and raced life. Blackness, Brownness, and Indigeneity are also a praxis in the expansion of the temporal logics of relation through radically different experiences of materiality, often made as an implicit critique of the regulatory structure of Reason's work as empire, race, and slavery, and in its violent structures of materiality and mattering.

This combined historical grammar of geology—of the *inhuman*—established the stability of the object of property for extraction and valuation and its modes of apprehension. This historical relation to the earth (and to subjects inundated by the earth) is based on an *extractive principle*.

### **Imperative: Moving against the Extraction Principle**

Natural resources ( $\sqrt{\text{colonialism}}$  + afterlives)

= extraction + capture (epistemic and material enclosure for the production of value)

personhood ( $\sqrt{\text{slavery}}$  + afterlives)

= extraction (from precolonial relations) + capture (through the technology of race and geology) + governance of blackened forms of life through temporal sovereignty and material epistemologies

≠ forms of material (spatial extraction ± containment) and subjective (“slave”/“native”) enclosures.

Inhuman dialectic of *Bios* + *Geos* = White Geology + Breaking Earths:

Human  $\leq$  subject, being, site

Matter = organic, agentic

Inhuman  $\geq$  void, matter

Matter = inorganic, mute/dead

Inhumanism is a (vertical) stratigraphic geopolitics—what might be understood as the *racial geophysics of anti-Indigenous, anti-Black, and anti-Brown gravities*—a raced axis and historic material dynamics that pushes down to lift up. Or the racial flip of geology has color.

INSTITUTION: *The Inhumanities* (action: epistemic shift through the geologic rift).

*The Inhumanities* is a “parallel geology” to that of the humanities and its Western construction that selected the European subject as the apex of achievement and material development as its practice. *The Inhumanities* aims at a different act of accumulation—a charge sheet against colonial earth and a redress of its geo-logics through reparative antiracist geoethics that attends to the nonrenewal of geotrauma.

# GEOLOGIC LIFE LEXICON

**GEOLOGIC LIFE:** An analytic of *Geologic Life* is a mode of apprehending the earth as praxis of exchange across temporal scales and through material states. This formation of subjectivity is most relevant in the aggregation of racial geophysics—where historical racial forces combine with contemporary structures of exposure to create geophysical conditions of race and the position of the racialized poor as subterranean epistemic and extractive strata. *Geologic Life* can substantiate an analytic for geography that positions inhuman forces in political terms as preceding biopolitical concepts of life and understands changes of state as a political domain and a racial axis that have geophysical consequences. Geologic life is a historical regime of material power that produces and reproduces subjects and material worlds. Understanding **geology as a medium of struggle** that defines differentiated relations and changes of state, geologic life invites a rethinking of granular geologies as well as expansive reconceptualization of inhuman politics and histories, and the imbrication of geologies of harm, which might be categorized as geotrauma.<sup>1</sup> The cessation of harm—in terms of ongoing colonial modalities of geotrauma through geologies of extraction and their nonrepetition—involves displacing the normative and reproductive modes of geologic life that organize futurity through a racialized praxis (or “white geology”).

**GEOLOGIC SUBJECTS:** We might see the development of humanist modalities of subjecthood, alongside the development of geologic grammars of the transformation of the earth, as existing along a fault line of the experience of a precariously imagined and defiant concept of Man and the Human. This humanist project, based on the fear of an inhuman

planet, also created inhuman subjects, both as enslaved “inhuman” property and through racialized geology practices and proximities to ore bodies and geochemicals. The embodiment of differentiated mineralogy was structurally organized as specific forms of social mattering—the relation between mobility and minerality in imperialism—as mines, minerals, geochemical agriculture, and fuels enacted deadly forms of becoming geologic. In the rapacious geotraumas of the mine, for example, bodies carry inheritances from the underground as a corporeal colonial afterlife. Specific geologic formations and ore bodies differentiate persons-as-bodies across inherited geotraumas and environmental change.

**GEOPHYSICS OF RACE:** The geophysics of race conceptualizes the material geoforces and dimensional stratifications that historically enact race as a contextual quality of space, prior to any biopolitical or ideological arrangements (which often act as a distraction to the structural work of racialized material geopower). The residual capacity of geology to hold and exhibit histories of raced life, as distinct geomorphic states and stratigraphic features, speaks to broader questions of social justice, climate change, and colonial afterlives. If we consider the legacy effects of geology and its forms of afterlives as the geo-logics of racialized spatial forms of production, there is a need to take seriously the geohistories and geomorphology of racializing and racial forms, particularly as these migrate into complex multiethnic formations. That is, we cannot think about how race matters outside of geology.

The differentialized temporal forms of geology might also provide a possibility to think differently about race and racialization outside of the imposed colonial divisions of human and inhuman subjectification and the foci on identity (as partitioned from inhuman and inhumane conditions and spatial forms). This also means thinking about geologic subjectivity beyond a fungible body caught in inhuman conditions as a collective, socially policed, and epistemically situated condition of racialization that is realized across material forms and epistemic modes. Thus, race becomes performed as a geophysical state. This is what I call “geophysics of race,” to comprehend erasures and their ongoing spatial and psychic affects that are experienced through the materiality and its ontological orders. The racial dynamics of geologic life not only have been assimilated into distinct geographic zones but also exist in the geophysical pressures of space and the syntax in which it is rendered (physically and psychically). Gravity, as a set of forces, imposes spatial



hierarchies and densities that define social conditions of pressure and positionality above the earth, as well as the countergravities of resistance as earthbound.

**GEOPOETICS:** Emerging in colonialism, geology created a language for the description of matter, accumulation, and dispossession and a legacy of racialized subjects. These infrastructures of languaging materiality have a complex and contested dynamic that creates an occupancy in the material world—forms of geologic life—even as the grammars of geology work against languages that describe that interpolation with an ore body or a silty sedimentation. Geopoetics within the field of geology was a key speculative method of doing geology itself, a language that presupposed the stretch needed to inhabit the occupation of past geologic worlds. While Enlightenment traditions had expansive methodological interdisciplinarity different from the contemporary enclosures of disciplines, geologic narratives continued in colonial relations to create discourses of “new” terrorized environments and to produce geographic imaginations of settler states. Angela Last’s (2015, 2017) work on Martinique writers who used geopoetics to undo geopolitics is relevant, as she recognizes how writers such as Aimé Césaire and Daniel Maximin turned Enlightenment languages of separation and description in on themselves, both to invent something new and to politically intervene in creating possibilities for attachment, while also uncovering a historical precedent of the poetics of geography and geology. The reversal of the “flow” between geopoetics and the geopolitical conquest of colonialism that Caribbean writers achieved demonstrated that they recognized very clearly the violent work geopoetics did inside the colonial condition. By giving origin stories new futures and participating in providing languages for geologic subjectivity, they gave geopoetics a less deadly decolonial future, as well as crafting a less masculine triumphalism in its writing, which defines the colonial trajectory and its afterlives in academic methods.

**GEOPOWER:** Understanding how geopower is distributed across states (geopolitical and geophysical) and strata of matter (as social, racial, and embodied) attunes us to the changes of state necessary to ameliorate the forms of disassociation that racial capitalism practices to border and contain events. Understanding how geotrauma can do political work in the future can provide a way to refuse the reiteration of colonial languages of extraction. An inhuman analytic that can move, as geology—

as both located and rapturous in time—is needed to understand the multiple forces of violence and therefore intervene in the sites of their reproduction and nonrenewal. We can see the racialization of space as an ongoing geotrauma. A by-product of decolonizing space and time is decolonizing materiality and normative approaches to matter that produce Anthropocene states.

**GEOTRAUMA:** Geotrauma is a way to understand geology as a praxis of struggle and to see the earth as iterative and archiving of those struggles. Geotrauma is the result of epistemic and material partitions in the relation between subjective attachments and inorganic forces, such as the dispossession of land, ecologies, and lifeworlds. And it is a burden of dispossessed geographies that are carried by the displaced. Geotrauma also conditions the transformation of geopower through racialized geomorphic labor into state power (as racialized geopolitics). Geotrauma provides a way to understand the manipulation of psychic states of the racialized for the attainment of geophysical states of the privileged. Geology is a site in the repetition of violence, as a material practice and as a heuristic for parsing the category of the inhuman. At the same time, the breakage of languages that congeal during geologic and epochal shifts, often because of violence, releases into being new languages of the earth that must turn against that epistemic and material violence. Rethinking methodological ways of rendering violence visible is a way to retool power through connecting forms of geologic violence across different state actions and states of being. Attachments to other fault lines of inhuman memory might act as sentinels to different political futures, established through temporal and tender provocations.

**INHUMANITIES:** The inhumanities is a parallel epistemological practice to the humanities (and environmental humanities) that centers those who have been historically denied (and continue to be denied) the privileged terms and spatial access of the human. Another way to say this is that humanist and settler futurity is organized through historical geographies of uneven environments through racialized modes of extraction and depletion, or racial deficits. The inhumanities, as a parallel institution, would seek to center the impacts of geotrauma as the methodological aspiration for the remediation of harm. The inhumanities would (i) provide methodologies for moving against normative languages of materiality that “earth” in particular homogenizing ways, for example,

natural resources; (2) see the geologic as a medium of “shifts”/a shifting terrain in politics and sites of struggle; and (3) understand bodies as/in geochemistry, subject to geophysical affects, which in turn affect planetary states (here there is a real need to be cautious around a return to an indifferent elemental determinism) as a way to aggregate planetary scale without reproducing its depoliticizing affects.

**INHUMAN MEMORY:** If a rock can be a collector of stories of disobedience, a witness to rebellion and the countenance that claims time outside the colonial clock and its climate-changed earth, then different epistemologies of inhuman memory are a praxis for giving the earth a different future (to the trajectory of colonial earth, aka the Anthropocene). If earth archives are understood as a site of redress—building spaces of remembrance, seeing ghosts, and shifting temporalities in the colonial afterlives of extractive earth—then new museums of earth need to be built and imagined. Geology or the earth, understood as a medium of racial struggle, requires new forms of memory practices and expanded archives for just *environmental* futures. Another way of posing this is to ask: What inhuman epistemologies of memory and forms of genealogy are necessary to be able to have a rock in the family?

**SHOCK FORWARD:** Geotrauma is never just erasure; it has a forward effect, a *shock forward*, both in the organization of captive and carceral futures and in the survivance of other futures. What grows around geotrauma is both what sustains the legacy of those impacts and what allows that which is erased to have a future or an ancestral claim that moves with and in the present. Claims on the future made by the ghosts of geology disrupt normative accounts of materiality (as a shadow geology), writing against the apartheid of its reproduction, dislodging languages that structurally carry the division between human and inhuman. The ghosts of geology smudge the borders of material and subjective states in the ongoing violent histories of geoengineering the conditions and categories of race through geologic formations.

The ontological imbrication of the inhuman and the plasticity of strata—a malleability that is evident in geopolitical and geosubjective terms—remind us that questions of geology are always questions of power. Theorizing and languaging this imbrication is precisely how to move beyond a normative geology that is anti-Indigenous, anti-Black, and anti-Brown in its historic formation and current politics. Geology

is not just a material zone that is used to do racial and ethnic work—as in weaponized environments—but it is a praxis in the stabilization of political and social forms that require racial deficits to function, both affectively and materially (i.e., racial capitalism). Disrupting the general account of materiality and inhuman concepts and their stabilization is part of how epistemic structures become open to change.

**TACTICS OF THE EARTHBOUND:** *Tactics of the earthbound* takes seriously counterarchives of the earth that deploy environmental knowledges and inhuman memory as a mode of generating spatial and political freedom. Historically, acts of freedom by Indigenous, Black, Brown, and racialized peoples in response to the violence of colonialism rely on environmental knowledges and tacit understandings of enacting with the earth in ways that the Overseer, enslaver, or state could not. These tactics of the earthbound were developed alongside and in resistance to the organization of colonial natures and the segregation of human and earth. Tactics of the earthbound shift the earth as the medium of struggle to a medium of survivance of other earths (e.g., marronage, caves of resistance) and thus create another geopolity. Clyde Woods in *Development Arrested* (1998) called this practice “Blues epistemologies”—whereby he saw the blues as a way of theorizing Black life in the Mississippi Delta and as a methodological repair to the erasure of Black history and in direct challenge to plantation bloc epistemologies of Black life. He argues that folk music was both a space of engagement with the environmental geographies of the Delta and a collective practice of collecting history and theorizing life as it was lived under conditions of environmental exposure to those geographies. The time of the earthbound is time in racial deficit and spatial undergrounds, doing time for promotion to the surface of capital flows, under the geologic praxis of racial capitalism. Tactics of the earthbound, without recourse to the distancing practices from geoforges, turn the weaponization of inhuman proximity into forms of inhuman intimacy and tender. Which is to say, the separation between environment and race needs to change spatially as well as socially for there to be any corrective to how geosocial worlds emerge.

