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THE EXTINCTION LIMIT: ANTHROPOCENE ONTOLOGIES OF DIFFERENCE IN HEIDEGGER AND DELEUZE

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ABSTRACT. This article stages an encounter between Martin Heidegger's ontological difference, Gilles Deleuze's ontology of difference, and two scientific framings of the Anthropocene: stratigraphy and Earth System Science (ESS). First, I discuss how Heidegger conceives difference through the distinction between Being and beings, which grounds human self-interpretation, and how Deleuze treats difference as primary and generative. The article maps these positions onto contemporary Anthropocene scholarship by reading stratigraphy as boundary-work that inscribes human traces in sediment, mirroring Heidegger's disclosure of Being, and ESS as a transdisciplinary account of a planetary system in line with Deleuze's immanent field of becoming. Then, I argue that both pairings drift towards abstraction, as the Heidegger–stratigraphy pair reduces the Anthropocene to ontic fixation and humanist horizon, while ESS and Deleuze's immanence tend toward a managerial and accelerationist control that flattens differences in power and responsibility. The last section argues that neither Heidegger's being-toward-death nor Deleuze's productive difference can register the absolute erasure posed by the concept of extinction. Extinction, therefore, tests these ontologies and requires a critical ontology of difference for the Anthropocene grounded in material histories and the possibility of there being no relations at all.

KEYWORDS: Anthropocene, ontology, difference, Heidegger, Deleuze.

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IŠNYKIMO RIBA: ANTROPOCENO SKIRTUMO ONTOLOGIJOS HEIDEGGERIO IR DELEUZE'O FILOSOFIJOSE

SANTRAUKA. Straipsnyje inscenizuojamas susitikimas tarp Heideggerio ontologinio skirtumo, Deleuze'o skirtumo ontologijos ir dviejų antropoceną aiškinančių teorijų: stratigrafijos ir Žemės sistemos mokslo (ŽSM). Pradžioje straipsnio autorė aptaria, kaip Heideggeris supranta būties ir esinio skirtumą, grindžiantį paties žmogaus savęs interpretaciją, bei kaip Deleuze'as svarsto skirtumą kaip pirminį ir generatyvų. Šios pozicijos siejamos su antropoceno mokslininiais tyrimais, stratigrafiją interpretuojant kaip mokslą apie ribas, per kurias sedimentacijos sluoksniai atveria žmogaus pėdsakus, panašiai kaip Heideggerio aprašomi esiniai atveria būtį, o ŽSM – kaip transdisciplininį požiūrį į planetinę sistemą, atitinkantį Deleuze'o imanentinį tapsmo lauką. Toliau straipsnio autorė argumentuoja, kad abi poros dreifuoja abstrakcijos link: Heideggerio ir stratigrafijos pora redukuoja antropoceną fiksuodama jį ontiniame lygmenyje ir humanistiniame horizonte, o Deleuze'o imanencija linkusi į vadybinę ir akceleracinę kontrolę, suplokštinančią jėgos ir atsakomybės skirtumus. Paskutinėje straipsnio dalyje autorė įrodinėja, kad nei Heideggerio būtis-myriop, nei Deleuze'o produktyvus skirtumas negali išreikšti absoliutaus sunaikinimo, kurį nustato išnykimo sąvoka. Taigi išnykimas išbando šias ontologijas ir reikalauja kritinės skirtumo ontologijos, kuri leistų paaiškinti antropoceną kaip grindžiamą materialios istorijos ir jokių santykių nebuvimo galimybės.
RAKTAŽODŽIAI: antropocenas, ontologija, skirtumas, Heideggeris, Deleuze'as.

Introduction

Since Paul Crutzen introduced the "Anthropocene" into the Western academic sphere during the IGBP Scientific Committee's meeting in Mexico in 2000, the concept has encountered a wide range of difficulties. In a seminal article following the Mexico conference, Crutzen and Stroemer explained the necessity of naming a new geological era by appealing to the significant impact of human activity on the planet: "Considering these and many other major and still growing impacts of human activities on earth and atmosphere, and at all, including global, scales, it seems to us more than appropriate to emphasize the central role of mankind in geology and ecology by proposing to use the term 'anthropocene' for the current geological epoch" (Crutzen, Stroemer 2000: 484). Nevertheless, identifying the specific moment when human activity became a geological phenomenon remains difficult. As the authors note, "To assign a more specific date to the onset of the 'anthropocene' seems somewhat arbitrary" (Crutzen, Stroemer 2000: 484). This difficulty persisted over the following decades. In March 2024, this same indeterminacy led the International Union of Geological Sciences (IUGS) to reject the proposal of adopting the Anthropocene as a new geological epoch.[1]

[1] See the report of the IUGS (International Union of Geological Sciences 2024) and the collection of papers released by the Anthropocene Working Group (AWG) after the IUGS's decision (Bohle et al. 2025).

Although the Anthropocene as a stratigraphic term has failed to secure sufficient support within the geological community, it is worth noting that, historically, the adoption of geological epochs can be a drawn-out process. For instance, it took geologists around 50 years in the 19th century to reach a consensus on the term "Holocene" for the current epoch,[2] while discussions around the Anthropocene have been ongoing for only about two-and-a-half decades. At the same time, it is important to note that the significance of the Anthropocene *as a concept* has never been solely tied to its status in geological classification.[3] In fact, it is exactly this concept's position at the intersection of planetary phenomena and human activity that complicates efforts to adopt the Anthropocene as an official geological category. However, aside from the difficulty of setting in stone the starting point of the epoch, what exactly is the source of the Anthropocene's *conceptual* indeterminacy?

Anthropocene scholars in the humanities and social sciences have adopted the term to designate an environmental crisis that spills into the cultural and historical domains. For example, calling for a contemporary ecosocialist movement in light of the Anthropocene, Angus noted that even without formal geological recognition, the Anthropocene idea would persist in public consciousness and discourse: "failure to win a formal vote will not make the Anthropocene go away" (Angus 2016: 58). Danowski and de Castro argued that the Anthropocene reflects a contemporary sense of existential unease, particularly in relation to the end of humanity as we know it: "The Anthropocene […] is an 'epoch' in the geological sense of the word; but it points toward the end of epochality as such, insofar as our species is concerned. For it is certain that, although it began with us, it will end without us: the Anthropocene will only give way to a new geological epoch long after we have disappeared from the face of the Earth" (Danowski, de Castro 2017: 5). The effort to classify the Anthropocene within a stratigraphic framework can thus be seen as an attempt to materialize a concept that is inherently abstract or to signify a collective sense of trouble by anchoring it in scientific symbols, such as sediment layers and chemical markers on the Earth's surface. In this sense, the process of geologizing the Anthropocene can be read as a means of finding a physical manifestation of a crisis that is not exclusively material—one that is the result of both cultural and material processes as well as human and non-human actors.

[2] For a historical integration of the Anthropocene alongside the process of accepting other geological epochs, specifically the current age, that of the Holocene, see Skelton, Noone 2025.

[3] See the detailed account of Jan Zalasiewicz, a leading member of the Anthropocene Working Group, of the ICS's 2024 rejection of the Anthropocene as a formal epoch, while arguing for its continued usefulness for geology, Earth system science, the humanities, and public discourse (Zalasiewicz et al. 2024).

As Chakrabarty argued, the Anthropocene implies the collapse of the distinction between natural and human histories, thus unsettling the traditional separation on which both geology and historiography relied:

> Humans have become geological agents very recently in human history. In that sense, we can say that it is only very recently that the distinction between human and natural histories—much of which had been preserved even in environmental histories that saw the two entities in interaction—has begun to collapse. For it is no longer a question simply of man having an interactive relation with nature. This humans have always had, or at least that is how man has been imagined in a large part of what is generally called the Western tradition. Now it is being claimed that humans are a force of nature in the geological sense. (Chakrabarty 2009: 207)

At the same time, beyond the statement that the Anthropocene collapses a certain set of established differences, it is not clear what conclusions should be drawn from this. Is there a new unity beyond the supposedly inadequate categories inherited from the Enlightenment? Or, perhaps, a different set of distinctions? Scholars have been debating both possibilities. For instance, some have questioned the ethics of attributing disaster-ridden agency to the entire human species, while others, instead, have proposed a proliferation of many Anthropocenes.[4] Yet others have attempted to refocus the discussion on a different ground, such as capitalism[5] or technology,[6] to identify other primary factors driving the planetary shift. In short, the question persists as to what the Anthropocene represents in conceptual terms.

Furthermore, another tension can be detected in Anthropocene scholarship. On the one hand, the Anthropocene designates the crisis of the finitude of the world as we know it, along with its epistemic categories. On the other hand, for some, it promises the infinite continuation of the human-centered world through new planetary and technological consciousness.[7] However, beyond this tension, the persistence of the Anthropocene's indeterminacy can also be understood as the impossibility of reducing planetary existence to a single framework of human and natural histories.[8] Thus, the Anthropocene represents the primacy of *difference* as

[4] See Gabriele Dürbeck's proposal of five difference Anthropocene narratives (disaster, capital and colonial-focused, Great Transformation, (bio)technological, and interdependency) and, from a postcolonial ecocritical point of view, critiques their universalism by foregrounding differential responsibility, center–periphery power, environmental/climate justice, and the need for multispecies and situated accounts (Dürbeck 2019).

[5] See the referential work Moore 2016.

[6] See Haff 2014.

[7] For example, see Shoshitaishvili 2021.

[8] For synthetic article arguing that disputes over the Anthropocene's start dates encode disciplinary and political intents, and advocating a topological, pluralist approach to stage a diplomatic coexistence of divergent demarcations without reifying a single origin, see Stallins 2021.

a force that is both generative and destabilizing. What Chakrabarty diagnoses as the collapse of human and natural histories is, in fact, the irruption of ontological difference into the geological register.

In this article, I examine two fundamental ontological approaches to difference in the 20th century and connect them to the contemporary discussions of the Anthropocene. More specifically, I discuss Heidegger's notion of *ontological difference* and Deleuze's *ontology of difference*. Heidegger articulates difference through the foundational distinction between Being and beings, which defines human existence through its capacity for self-interpretation. Deleuze presents difference as primary and generative, and, in contrast to Heidegger's concept, as a counterpoint to fixed identities and anthropocentric frameworks. In addition, I relate these two approaches to difference to two established approaches to conceiving the Anthropocene, represented by the disciplines of stratigraphy (the branch of geology that studies the composition of the Earth's strata) and Earth System Science (ESS; the transdisciplinary field that conceives the planet as a network of interconnected biological, chemical, physical, and human subsystems).

The Anthropocene encapsulates a vision of humanity shaped by a shift in material and conceptual terms. By referring to a tangible record in the planet's layers of sediment, the Anthropocene grants humans[9] the ability to perceive and reflect upon their place and impact on the Earth.[10] Stratigraphy represents this transformation as a permanent geological mark of humanity's existence and activity. In the first section of the article, I argue that stratigraphy's creation of a boundary marking humanity's impact on the Earth performs the same strategy in relation to the Anthropocene as does Heidegger's idea of ontological difference, which marks the separation between the essential nature of the Earth and its physical manifestations as a human-altered landscape. In Heidegger's terms, the geological marking represents the Anthropocene as a crisis in the understanding of Being and signals an existential shift in how the planet itself is conceived.

Meanwhile, ESS represents the Anthropocene through a network of climate-shifting processes that map out the impacts of human life on the natural world. These interconnected changes illustrate a reconfiguration of planetary systems. Thus, in the second part of the article, I argue that ESS's representation of the Anthropocene

[9] For the purposes of this article, I will use the general term "humans" to designate the human species in its totality. Nevertheless, it is important to note that the use of this term has been and remains highly contested in the environmental humanities and other related disciplines addressing anthropogenic processes in relation to the planet. For a discussion of this problematic, see Marquardt 2018.

[10] For an article examining how the Anthropocene transforms human self-awareness, shifting from modern notions of control to a recognition of humanity's geological traces and responsibilities toward the Earth, see Gutauskas 2023.

as a process of differentiation that ramifies over a rhizome of multiple unfolding crises is similar to Deleuze's conceptualization of the ontology of difference. For ESS, the Anthropocene represents a dynamic field of interactions and changes, such as altered carbon cycles and disrupted ecosystems, which reshape planetary conditions in real time. Similarly, understood through Deleuze's ontology of difference, the Anthropocene is an ongoing process of becoming driven by difference itself and marked by the constant emergence of new forms and relations.

In the last section of the article, I argue that although these two frameworks have significant explanatory power, both Heidegger and Deleuze struggle to fully conceptualize a fundamental concept related to the Anthropocene: *extinction*. In Heidegger's framework, death is central to Dasein's existence, but it is always a death that is a marker of the human subject's authenticity rather than absolute erasure. Because Being-toward-death is a *relational* mode of existence, true contingency, or the possibility of a world without Dasein, is impossible to conceptualize. For Deleuze, the ontology of difference resists fixed identity and emphasizes becoming and interconnectedness (another form of relationality). Within his difference-driven framework, negativity is not a primary force because difference always produces, transforms, and proliferates itself within an immanent structure. Although Deleuze does center the immanent plane on contingency, his system posits an ontological non-ground that cannot cease to exist. In this framework, extinction is not a fundamental rupture but a reorganization of relations. This refusal of absolute negation is echoed in contemporary posthumanist thought, which conceptualizes the Anthropocene as a transformation of relations and a decentering of the human subject but does not take into account total disappearance as such and, it could be argued, extends the focus on the human subject within the Anthropocene. Consequently, both Heidegger and Deleuze, in different ways, maintain ontologies that resist the possibility of complete extinction.

Heidegger's Perspective: The Anthropocene as a Crisis of Ontological Difference

Heidegger's notion of *ontological difference*, understood as the distinction between Being (*Sein*) and being (*Seiende*), is considered one of the cornerstones of his thought. For Heidegger, the difference between Being and beings is not only an ontological determinant of reality but should be the central concern of the very orientation of human activity, particularly philosophy. As William McNeill emphasizes, "difference must be understood in terms of its unitary ground, as a distinction between different modes of (concernful) being-in-the-world, different

ways of uncovering beings within the world" (McNeill 1999: 68). Ontological difference is a historical act of revealing this fundamental reality, and philosophy's role is to recognize that such disclosure is always finite and contingent.[11] The temporal aspect is related exclusively to the act of disclosure, meaning that any entity which does not have access to this process will be extra-temporal or will only be temporal when implicated in another entity's process.

More explicitly, in *Being and Time*, Heidegger argues that the question of the ontological difference between being and Being is accessed exclusively through *Dasein*—the human being who exists and is capable of questioning its own existence and, especially, its own death. Unlike other entities, Dasein is "ontically distinguished by the fact that in its being this being is concerned about its very being" (Heidegger 1996: 10). Dasein's existence is thus privileged by its self-interpretative capacity. It follows that Being is only revealed through human existence, while non-human entities are encountered as ontological only through their relation to Dasein.

In the lectures published as *Identity and Difference*, Heidegger reframes the question of ontological difference by shifting attention away from the components of the relation—being and Being—and toward the differential relation itself. Whereas *Being and Time* began with an analysis of Dasein as the privileged site of disclosure, *Identity and Difference* asks more fundamentally about the character of *the relation* between human existence and Being. As Joan Stambaugh explains, ontological difference, in these lectures, "does not inquire into the 'components' of the relation, but into the relation as a relation" (Heidegger 1969: 8), which means that "the relation first determines the manner of being of what is to be related and the how of this relation" (Heidegger 1969: 12). Departing from the metaphysical fixation on identity as sameness, Heidegger insists—through his interpretation of Parmenides's fragment, which states that "the same perceiving (thinking) as well as being" (Heidegger 1969: 27)—that philosophy must think identity as a fundamental difference and as an original dimension. From this perspective, the task of thought is not to define Being or beings separately but to attend to the interval that holds them together and apart.

Thus, Heidegger moves away from interpreting identity as a predicate of Being and conceives it not as a relation between two already-given, fixed entities but as a play of disclosure and concealment in which both Being and beings come into relation at all; in short, he conceives identity as difference. However, his ontological difference *in effect* recenters Being as an ultimate horizon and grants

[11] For a discussion that situates philosophy within the historical unfolding of the ontological difference, as well as the argument that ontology must be rethought as an event of difference whose disclosure is always contingent and finite, thus aligning with the claim that philosophy's role is to recognize the transitory character of such revelation, see Beistegui 2004.

it a transcendental priority.[12] As he states, "For us, the matter of thinking is the Same, and thus is Being—but Being with respect to its difference from beings. For us, formulated in a preliminary fashion, the matter of thinking is the difference as difference" (Heidegger 1969: 47). What appears here as a radical elevation of difference is ultimately folded back into the primacy of Being, which remains the sameness that grounds the relation. In other words, the claim to think difference as difference remains tied to an ontological framework where Being, rather than difference itself, has primacy.

From the Heideggerian perspective, the geological and palaeontological effort to classify humanity based on its geological mark (its ontic and permanent marker) could be interpreted as reducing Being to being (or framing ontological disclosure through empirical presence) and thus erasing the fundamental aspect of human existence as an entity marked by ontological difference. Therefore, to avoid reducing experience to the ontic dimension, the Anthropocene cannot be approached uniquely as an empirical phenomenon. Rather, it has to be framed as an unfolding of meaning concerning the transformation in Dasein's relation to Being. As Boyle argues, the Anthropocene would be, for Heidegger, a manifestation of "Earth as not-Earth" (Boyle 2018: 131), meaning that the Anthropocene, defined as an environmental state marked by observable shifts in climate or biodiversity, challenges how Dasein conceives of Earth and thus calls into question the intrinsic meaning of a world thoroughly transformed by human activity. The Anthropocene thus dramatizes the tension between ontological difference and ontic particularization. Considering, moreover, that truth or the "sheltering that clears as the basic characteristic of Being" (Heidegger 1949: 137) is fundamental for the horizon of disclosure in which human existence is already implicated, it results that the Anthropocene is an existential realignment, where the planet is revealed again through the way human beings come to inhabit it. Central to this process is not the measurement of planetary change but the transformation of meaning itself, insofar as Dasein relates to Being through a world it experiences as profoundly altered.

However, geologists defining the Anthropocene insist on the primacy of the "effect" that human activity creates in the Earth's strata, thus separating and relegating the role of the humanities and social sciences to the second order, subordinate to the scientific pursuit of the ontic mark. As Zalasiewicz et al. argue,

> the determination of such geological units hinges much more on effect than on cause, not least because of the importance of strata, which are the physical archives of elapsed Earth processes, in their definition. […] Thus, debates about the driving forces of the

[12] This is an established line of critique of Heidegger's conceptualization of difference in continental philosophy. For more information, see, for example, Nancy 2008, Derrida 2016, Philipse 2021.

> Anthropocene and the role of different modes of human social, technological and political behaviour (e.g., Chakrabarty 2014; Angus 2016; Hamilton 2017) are scientific questions of deep importance, just as are studies into the dynamics and wider effects of bolide impacts and volcanic eruptions. Yet it is the inherent pattern of strata and how well their particular characters can be recognized and correlated between different geographical places that act as the primary empirical basis for the Anthropocene as a geological unit. This is, of course, a basis that can then also help to inform scientific inquiry into the causes, processes and dynamics of the Anthropocene. (Zalasiewicz et al 2019: 15)

However, in approaching the ongoing debate about framing the Anthropocene, it is important to question whether it is indeed fair to separate the "inherent pattern of strata" from the "causes, processes and dynamics" (Zalasiewicz et al 2019: 15) that produce it. While Heidegger's framing of ontological difference should be approached critically due to the conservative implications of the transcendental horizon of Being that he maintains, some of its elements can be useful in addressing the issues with the current discourses of superiority of the technoscientific approach to the Anthropocene. After all, it could also be argued that this very mentality, developed through centuries of industry and economic growth, is what causes the mark that geologists observe on the planet's strata.

For Heidegger, stratigraphy would be an important tool in the conceptualization of Dasein's world only insofar as its tracing of the Earth's past through layers of sediment would reveal *a historical process of meaning-making*. In this context, the gesture of tracing human activity through geological marks, when this act remains an ontic recording, represents the sedimentation of the processes that conceal the relation with Being. The current efforts of framing the Anthropocene stratigraphically, therefore, reveal the tension between the work of ontological difference and the modern, technological act of *Gestell* (enframing) that obscures the fundamental questions of what it means that the Earth itself is marked by the process of concealment and disclosure (or, simply, by modern human activity in its ensemble). In Heidegger's framework, the Anthropocene is not only a problem of geological periodization but also a scene of forgetfulness of Being, in which the ontological and meaning-making dimensions (or, in scientific parlance, the "causes, processes and dynamics of the Anthropocene" [Zalasiewicz et al. 2019: 15]) are buried beneath the activity of tracing the marks on the geological strata.

Another important issue related to the primacy of both the contemporary technoscientific approach exemplified by the Zalasiewicz et al. quotation above and the primacy of the criticism of ontic focus in Heidegger's framework is the role that technology plays in the Anthropocene, considered from a Heideggerian

perspective. Heidegger's reflections on technology in *The Question Concerning Technology* distinguish between the modern, instrumental view of technology (in which technology is represented as a practical, human tool or means-to-an-end) and technology's true essence (the ancient *technē*), which is a mode of revealing and enframing. He argues that modern technology compels nature to yield resources on demand, which leads to the transformation of rivers, forests, and even the atmosphere into a "standing-reserve" (Heidegger 1954: 17) or resources ready for exploitation. This technological revealing exemplifies the same ontic fixation seen in the stratigraphic debate: both reduce the planet to a calculable presence, masking its ontological dimension. In the Anthropocene, this reduction is radicalized as planetary systems themselves are reorganized into a vast standing-reserve, ordered through data flows and extraction regimes. However, as Heidegger famously argues, within the danger of enframing lies a possible key for exiting the process of forgetfulness of Being, namely the recognition of technology's role as a disclosure of Being and a search for alternative modes of revealing, including those found in art and care for the world (both forms of "good" technological enframing for Heidegger).

Thus, in its relation to stratigraphy and technology, the Anthropocene, understood through Heidegger's ontological difference apparatus, is both a symptom of Dasein's forgetfulness of being and an occasion for a renewed understanding of Dasein's relation to Being. The question, for Heidegger, would not be when the Anthropocene begins but how its demand to be measured and classified obscures the more primordial disclosure of a world and how confronting this risk may open the space for another relation with Earth beyond enframing.

As discussed earlier, Heidegger's framework encounters a fundamental limitation when applied to the Anthropocene due to the insistence that Being is disclosed only through Dasein. He maintains a humanist framework that cannot fully account for Earth's existence apart from human self-interpretation. The Anthropocene is then reduced to a crisis of meaning for humanity rather than a crisis in which the planet itself exceeds human horizons of disclosure. Ontological difference accounts only for a relation to Being that cannot be accessed from the outside of human existence. In this sense, Heidegger paradoxically reproduces the anthropocentrism that underlies the very processes generating the Anthropocene—those that elevate human existence to an exceptional status while relegating the nonhuman to a means (a means to reveal Dasein's forgetfulness and to remedy the course, for example). His account of care, oriented toward authenticity and Dasein's relation to Being, leaves little room for the alterity of other living beings or for Earth as a planetary entity. A care without otherness is a care that erases difference and

with it the possibility of acknowledging extinction, finitude, and the irreducible singularity of more-than-human existence—all key components of an ethics that would live up to the conceptual challenge of the Anthropocene.

In the following section, I examine Deleuze's ontology of difference, which, unlike Heidegger's ontological difference, is designed to conceive becoming and multiplicity as such. Whereas Heidegger's ontological difference culminates in the primacy of Being as the horizon of disclosure, Deleuze rethinks difference as primary and generative. Moreover, I examine how Deleuze's ontology of difference pairs up with ESS's systemic view of planetary processes, whether it offers a conceptual resource for reimagining the Anthropocene beyond human exceptionalism, and what its limitations are.

Deleuze's Perspective: The Anthropocene through the Ontology of Difference

Whereas Heidegger's ontological difference produces a reading of the Anthropocene as a crisis in humanity's relation to Being disclosed through Dasein, Deleuze focuses on difference itself. In *Difference and Repetition*, Deleuze discusses how conventional conceptual schemas, such as those underpinning natural law, moral universality, or habit theory, misunderstand repetition by subordinating it to identity.[13] For example, it is assumed that experimental replication reproduces the same conditions, that the categorical imperative posits universally repeatable actions, and that habit regularizes life through sameness.[14] However, Deleuze argues that in each case, what is truly repeated are the differential conditions that never coincide

[13] In order to contain the scope of this article, I am engaging solely with the work of Gilles Deleuze (specifically with *Difference and Repetition*, which directly addresses the topic of this article) rather than discussing Deleuze and Guattari's corpus. Moreover, although Deleuze and Guattari employ the term "strata" in *A Thousand Plateaus* (especially in "The Geology of Morals"), their use of the concept designates regimes of capture and organization produced by a double articulation of content and expression, which is always in tension with processes of territorialization and lines of flight. Strata, in this context, frame the processes of life and sense sedimentation and normalization within an immanent field. By contrast, stratigraphy in geology is an observational and correlative practice that identifies physically distinct layers in the rock record together with distinctive chemical and physical markers in sedimentary archives in order to establish temporal succession and correlation. The apparent similarity between Deleuze and Guattari's strata and the stratigraphic method is therefore terminological rather than ontological or methodological. My article maps Heidegger's ontological difference from stratigraphy precisely in its empirical boundary-work, and Deleuze's ontology of difference from Earth System Science in its immanence. The relation between the geophilosophical approach in Deleuze and Guattari's work and the geological method would require a separate analysis, which falls outside the scope of this article. In addition, there is already a significant amount of scholarship focused on the relation between geophilosophy and the Anthropocene. For further elaboration of this issue, see Tynan 2016.

[14] All of these examples and more are schematized in the "Introduction" to *Difference and Repetition*.

with themselves. Thus, Deleuze argues that "[d]ifference is the state in which one can speak of determination as such" (Deleuze 1994: 28). For him, difference is a *positive* power of determination, similar to lightning, which "distinguishes itself from the black sky but must also trail it behind, as though it were distinguishing itself from that which does not distinguish itself from it. It is as if the ground rose to the surface, without ceasing to be ground" (Deleuze 1994: 28). Therefore, Deleuze's concept of difference is presented as a unilateral, self-positing cut that arises from an immanent surge.

In light of this, Deleuze describes difference as an "internal qualitative relation" (Deleuze 1994: 46), since difference relates *from within*, as the very production of singularities rather than between already-given identities. This means that difference is the intensive tension by which reality differentiates itself: "Difference finds its own concept in the posited contradiction: it is here that it becomes pure, intrinsic, essential, qualitative, synthetic and productive; here that it no longer allows indifference to subsist" (Deleuze 1994: 45). In Deleuze's ontology, repetition is the reiteration of difference across different levels, such that identity is a *result* of differentiation and not its condition.

Already we find similarities and difference between Heidegger's and Deleuze's approaches to ontologizing difference. While both approach difference dialectically, by opposing it to sameness and identity, and both insist that difference is opposed to fixity and already-established relations, their manners of contextualizing and grounding the concept are distinct. Heidegger maintains a transcendental horizon for his ontological concept of difference, while Deleuze erases the inside/outside opposition and exposes difference as always-already fundamental. For Deleuze, there is no process of disclosure that depends on Dasein's recognition of Being. Rather, difference is the originary operation, which Deleuze proposes as the very condition of what can appear. Deleuze's engagement with Heidegger clarifies his stance regarding the latter's conceptualization of difference. As Deleuze writes, "the Heideggerian *Not* refers not to the negative in Being but to Being as difference; it refers not to negation but to questioning" (Deleuze 1994: 64). However, Deleuze recognizes that the real source of difference is Being: "Being is truly the differenciator of difference – whence the expression 'ontological difference'" (Deleuze 1994: 65). Then, he pushes beyond by stating that difference cannot be subordinated to identity, mediation, or representation, since "there is no synthesis, mediation or reconciliation in difference, but rather a stubborn differenciation" (Deleuze 1994: 65). Therefore, while Heidegger links difference to the questioning of Being, Deleuze insists that difference, as the force by which singularities are composed, is productive in itself. This divergence marks the shift from Heidegger's transcendental horizon

of disclosure to Deleuze's plane of immanence, which, applied to the Anthropocene, results in a proliferating regime of differentiations.

Seen through Deleuze's immanent conceptualization of difference, the Anthropocene is an escalated regime of differentiation—a statement that, aside from painting a distinct vision of the current era from the Heideggerian framework, nevertheless remains abstract. If conceived at a more concrete level, Anthropocene-specific ideas emerge, like the fact that human industrial and semiotic practices accelerate the intensities into planetary processes,[15] and that these gradients propagate as series of singular events, such as altered carbon and nitrogen cycles, new atmospheric chemistries, or shifting hydrologies, which generate new patterns of connection. Deleuze's ontology of difference can represent this reality without reinstating the nature–culture opposition. Thus, what matters is how differences compose, interfere, amplify, disrupt, and tip the scales and cycles of the planet. Intensities move and individuate forms, which are not essentially stable (there is no "neutral" state to begin with).

ESS can be understood alongside Deleuze's ontology of difference because both emphasize the dynamics of coupling and transformation across heterogeneous domains. ESS defines the Earth as "a single, complex, adaptive system" (Steffen et al. 2020: 54) composed of interacting physical, chemical, atmospheric, biological, and, increasingly, human processes. Specifically, ESS "connects traditional disciplines — which typically examine components in isolation — to build a unified understanding of the Earth" (Steffen et al. 2020: 54). Thus, it links atmosphere, biosphere, lithosphere, and cryosphere. As Steffen et al. note, ESS "facilitated the transformation from interdisciplinary research (where multiple disciplines work together to tackle common problems) to transdisciplinary research (where disciplinary boundaries fade as researchers work together to address a common problem). ESS consequently has a diverse epistemological framework, adopting fundamental building blocks and methodologies from diverse disciplines to tackle highly complex questions" (Steffen et al. 2020: 56). From a Deleuzian perspective, ESS's study of such metamorphic phenomena as temperature gradients overturning atmospheric circulation,[16] albedo shifts recalibrating radiative balance,[17] biogeochemical perturbations propagating across trophic networks,[18] and cryospheric phase changes reorganizing oceanic and atmospheric flows[19] is an expression of intensive difference. What ESS frames as system dynamics can be read in Deleuzian terms as metastable plateaus (temporary

[15] For an extended discussion of a semiotic approach to the Anthropocene, see Brandt 2020.
[16] See Brown 2009.
[17] See Williamson, Marshall, Menounos 2025.
[18] See Ward et al. 2021.
[19] See Bentley 1984.

resolutions of underlying tensions) that are constantly reconfigured through new inputs.[20] In light of this approach, the virtual problems of the system (its latent issues) are perpetually re-parameterized, such that shifts in conditions select new solutions, sometimes abruptly, in the form of tipping points. The Anthropocene, therefore, marks the historical juncture when anthropogenic forcing factors[21] become decisive agents in the field of immanent configurations.

It is important to note, on the positive side, that this pairing of Deleuze and ESS avoids both anthropocentrism and externalism. Univocity, articulated by Deleuze through Parmenides, means that "[b]eing is said in a single and same sense of everything of which it is said, but that of which it is said differs: it is said of difference itself" (Deleuze 1994: 36). For Deleuze's ontology of difference, there is no hierarchy that sets the human above nature because heterogeneous elements (such as humans, rivers, rocks, forests, air currents, and large-scale technologies) express being univocally by differing, hence by composing and decomposing assemblages. Therefore, human environmental forcings are a distinctive modulation within Earth's immanent processes, and the Anthropocene is an assemblage of intensified processes within natural history. Similarly, ESS understands human activity as one force among others.

However, on a more critical note, these modes of abstraction through which the planet is rendered a unified, adaptive system or a flat plane of immanence ignore the material conditions of difference and risk becoming susceptible to appropriation by capitalist, accelerationist, and technocratic discourses. System-thinking can be effectively captured by managerial logics, just as Deleuzian immanence has been used by strands of accelerationist theory. As Dobner and Finkeldey argue, the Bretherton diagram, first developed by NASA in the 1980s and often celebrated as a milestone in integrating human activity into the Earth System, relegated the *anthroposphere* to "not more than a black box at the fringes of the Earth system. As a result, the anthroposphere first came into the picture as an appendix to the natural spheres of the Earth, not as an integral part of the Earth system, let alone as the driver of change in the interconnected system of spheres" (Dobner, Finkeldey 2022: 14). The authors also illustrate how—as system dynamics become inputs for governance models, tipping points become optimization thresholds, and the Earth appears primarily as an integrated object of technocratic control—the abstraction that constitutes the foundation of ESS renders the approach vulnerable to being

[20] For a discussion that shows how Deleuze's metaphysics of difference can be articulated with dynamic systems theory, where metastable plateaus and thresholds structure processes of individuation across natural, social, and cognitive domains, see Protevi 2013.

[21] For a historical contextualization of anthropogenic forcing factors, see Tett et al. 2007.

folded into managerialist paradigms, which result mostly in sets of norms that lack concreteness and a framework of legal enforcement. In this way, an accelerationist mentality risks being reproduced conceptually within ESS itself, where the system's adaptability is mobilized to justify further accelerations under the guise of sustainability.

A similar logic of capture marks the fate of Deleuze scholarship in the contemporary context. As Claire Colebrook (2020) notes, the proliferation of "Peak Deleuze" signals both the saturation of his concepts as well as their proliferation and complicity with late-capitalist logics of excess and intensification. In building her argument, Colebrook cites Alexander Galloway's critique of "Google Deleuzians," which argues that Deleuzian conceptual strategies, such as the use of assemblages, flows, and lines of flight, perform a descriptive and mimetic (rather than critical) operation in relation to the digital networks of neoliberal capitalism, where maximization and constant differentiation represent the imperatives of the system. In this sense, Deleuze's immanence and hyper-connectivity framework, like ESS systems thinking, risks becoming an accelerationist ontology, which endorses the capitalist valorization of connection and expansion, particularly in its digital form. This logic, far from resisting capitalism, mirrors its compulsions.[22] Therefore, certain iterations of Deleuze's ontology of difference and ESS render the planet an integrated whole that obscures concrete differences, represented, for example, in asymmetries of agency and responsibility, and leaves the conceptual apparatus open to being mobilized for the optimization of the worst exploitative practices and extractivist politics.

In conclusion, Deleuze's ontology of difference departs from the Heideggerian human-centric focus on Being and conceptualizes the Anthropocene as a proliferating field of intensities, whereby repetition produces singularities and identities as secondary effects of differentiation. However, because this framework suspends external measures, it risks flattening the asymmetries that inform the current environmental crisis. In *Difference and Repetition*, difference is the productive force by which reality is determined. Adopted incautiously, this framework renders contemporary issues such as industrial emissions, deforestation, agrichemical regimes, and extractivist infrastructures equivalent modalities of differentiation, on par with, for example, forest growth or indigenous practices of environmental care. Such a system of equivalences obstructs the understanding of the uneven burdens of destructive processes and the power relations that drive them. A similar abstraction

[22] This is a well-established criticism in Deleuzian scholarship, argued, alongside Claire Colebrook and Alexander Gallaway, by such thinkers as Slavoj Žižek, Alain Badiou, and Anne McCarthy. See, for example, Žižek 2012.

operates in ESS, which frames the planet as a complex adaptive system while reducing the immense heterogeneity of such a system to an abstract schema. In both cases, the abstraction that enables a unified view of planetary dynamics opens the door to technocratic and accelerationist capture. Moreover, by representing human actions as variations among many, these frameworks suspend the question of responsibility. However, it remains possible to adopt a critical stance toward the harmful processes that have been normalized during the Anthropocene within the framework of Deleuze's ontology of difference. As Colebrook proposes, such a critical approach would require resisting the "Peak Deleuze" tendency and, instead, reading Deleuze less as a thinker of endless proliferation and more as a philosopher whose concepts must be tested against their limits, including the possibility of their exhaustion and taking seriously the idea of extinction. In Colebrook's words, "the arrival at end times" (Colebrook 2020: 327) presses Deleuzian immanence to its limit. In this register, extinction becomes the horizon against which the force of difference can be tested for political and ethical adequacy.

Extinction: The Impossible Horizon

The Anthropocene represents a conceptual crisis, oscillating between a name for the collapse of the nature/culture divide and a sign that planetary existence cannot be reduced to a single framework of human and natural histories. In addition, the Anthropocene discloses the primacy of difference in composing a world without fixed borders. Extinction is important in this context because it represents the point at which the premise of ongoing differentiation is tested. Extinction represents the maximum, the most intense mode of differentiation.

In *Death of the Posthuman: Essays on Extinction, Vol. 1*, Colebrook reads extinction as the conceptual detonator of a process that ends the consoling fiction of an absolved, unified human race. In stating that "the human race is facing extinction" and that "one might even say that there is a race towards extinction" (Colebrook 2014: 140), Colebrook considers extinction to be the one element intensified by the Anthropocene that makes the whole condition of continuity (such as applied to the ideas of species, memory, progress, or culture) untenable. Reframing Heidegger's ontological difference and Deleuze's ontology of difference through the concept of extinction tests their limits in relation to the problems that the Anthropocene poses. In both cases, as I will discuss below, the conceptual apparatus is inadequate for considering extinction's challenges. Heidegger's related concept, being-toward-death, presumes a horizon where finitude discloses meaning and cannot register the absolute erasure of worlds. In a conventional reading of his corpus, Deleuze's

framework resists negativity and installs the plane of immanence, which renders destruction as transformation.[23] Thus, for both thinkers, extinction is foreclosed either by being transfigured into existential meaning or by being dissolved into further differentiation. Nevertheless, as Colebrook and others argue, extinction, intensified by the Anthropocene, cannot be understood as a further variation of difference but must be seen as the interruption of its productivity and the point where thought is exposed to the possibility of its own erasure.

It is helpful, for a brief examination of these concepts, that Heidegger dedicates a whole section in *Being and Time* to being-toward-death, where he defines death as the "ownmost, nonrelational possibility not to be bypassed" (Heidegger 1996: 232), the moment in which Dasein stands before "the absolute impossibility of existence" (Heidegger 1996: 236) and thus gathers itself into a whole through anticipatory *Angst*. This existential limit belongs to the structure of care in that, "as long as Da-sein is, a not-yet belongs to it" (Heidegger 1996: 225). Thus, death's main role is to disclose the horizon within which a life can be made meaningful. In relation to Heidegger's *ontological difference*, being-toward-death individualizes Dasein and sharpens its relation to Being without ever abolishing that relation. Hence Heidegger's insistence on distinguishing between the ontic "demise" (Heidegger 1996: 229) (or the physical death of a human body, which he states is only an object of study for the medical sciences) and death as "no-longer-being-there" (Heidegger 1996: 221) that remains an existential phenomenon:

> This interpretation of the transition from Da-sein to something merely objectively present, however, misses the phenomenal content in that the being still remaining does not represent a mere corporeal thing. Even the objectively present corpse is, viewed theoretically, still a possible object for pathological anatomy whose understanding is oriented toward the idea of life. Merely-being-objectively-present is "more" than a lifeless, material thing. In it we encounter something unliving which has lost its life. (Heidegger 1996: 221)

In other words, even in death Dasein never retreats into the ontic register because what remains (a corpse or the products of its existence) still bears the traces of life. Since death individualizes Dasein and strengthens its relation to Being without the possibility of abolishing the horizon of the understanding of being, Heidegger's idea of death maintains the frame of ontological difference.

By contrast, extinction, seen through the current context of polycrisis, is an incision that cannot be contained by ontological difference because it not only

[23] For a contextualization of this issue within the field of negativity studies and a synthesis of the critique of Deleuze's rejection of negativity, see Noys 2010.

terminates a particular Dasein but also removes the very capacity for disclosure. In terms of difference, death intensifies differentiation (it individuates and draws a limit that allows a specific mode of existence to be articulated), whereas extinction tests difference by imposing a limit where the logic of generativity (of new life, of resources) is exhausted and the possibility of further differentiation collapses. Situated within the context of the Anthropocene, understood in this article as the epoch in which human and natural histories intersect, Heidegger's being-toward-death provides an argument for why finitude may matter for human meaning. However, extinction exceeds the structure of Heidegger's ontological difference because its role is to unworld.

Deleuze's approach performs a different but related foreclosure of extinction. His resistance to the possibility of total annihilation that extinction presents us with (in the intensifying extinction of species, for example) is exemplified through his resistance to negativity, which he frames solely in relation to opposition, which is counter to his concept of difference because it reinstates a logic of identity. Against Hegel's claim that "difference as such is already implicitly contradiction" (Hegel quoted by Deleuze 1994: 44), Deleuze argues that this still subordinates difference to identity. For him, "Hegel's circle is not the eternal return, only the infinite circulation of the identical by means of negativity" (Deleuze 1994: 50), such that "difference remains subordinated to identity, reduced to the negative, incarcerated within similitude and analogy" (Deleuze 1994: 50). Negativity, in other words, is merely "the image of difference, but a flattened and inverted image" (Deleuze 1994: 51). Deleuze's true difference escapes this logic of opposition through an unbounded, positive heterogeneity: "every time we find ourselves confronted or bound by a limitation or an opposition, we should ask what such a situation presupposes. It presupposes a swarm of differences, a pluralism of free, wild or untamed differences" (Deleuze 1994: 51).

This refusal of negativity also underwrites Deleuze's ontology of immanence, in which destruction is only the redistribution of intensities and a passage to new compositions. Within such a framework, extinction is difficult to register as a decisive rupture. If every collapse is a reconfiguration of forces, extinction risks being redescribed as another modulation of being, the transformation of a system rather than its absolute exhaustion. In relation to the Anthropocene, this amounts to treating mass extinction or ecosystem collapse as new variations within the immanent field of becoming rather than as the point where the very conditions of differentiation withdraw. Thus, just as Heidegger's being-toward-death approaches finitude as a beneficial configuration while barring Dasein's total erasure, Deleuze's rejection of negativity affirms the heterogeneity and proliferation of differences

while dissolving the nothing of extinction back into immanent variation. In both cases, extinction cannot be thought in its radical sense, as the loss of the very field in which difference and disclosure are possible and as the possibility of a deep cut within the fabric of social and historic continuity—a cut accelerated by human activity itself.

Conclusion

In conclusion, the Anthropocene's troubled path toward acceptance by the scientific community and conceptual assimilation within the humanities and social sciences is a sign that existing categories cannot easily integrate a historical moment in which human and natural histories fold into one another. The concept of difference, as discussed in this article, provides a glimpse into how two of the most influential conceptual frameworks can help us frame the current moment: Heidegger's ontological difference and Deleuze's ontology of difference. In the end, while both frameworks provide insights into approaching such a challenge as the Anthropocene poses, neither can measure up to this task without a significant update.

Without undertaking an in-depth analysis of the proposed ontological frameworks, this article's aim was to stage an encounter between these classical 20th-century systems of thought and the issues that the current moment brings to the fore—issues that are conceptual, disciplinary, environmental, historical, and philosophical. Thus, I discussed how, in a Heideggerian register, a stratigraphic approach to framing the Anthropocene can be understood as collapsing ontological difference into ontic presence. Heidegger's ontological difference also criticizes the current technoscientific approach as a world disclosed as standing-reserve, measured and managed under enframing rather than thought as a shifting horizon of meaning. However, the great limitation of Heidegger's framework is its anthropocentrism, as Being is disclosed only through Dasein, which renders the rest of the natural world as worldless or poor in world. Thus, the Anthropocene can only be understood as a crisis of meaning for the human rather than a planetary crisis that can exceed human horizons of disclosure. This approach narrows care to a relation that privileges the human and leaves little room for the alterity of more-than-human lives.

In the second section of the article, I paired Deleuze's ontology of difference with ESS's approach to integrating a unified vision of planetary dynamics through the coupling of biological, chemical, physical, and human subsystems. I explored how ESS's whole-Earth diagrams and feedbacks resemble Deleuze's immanent field of intensities, in which singularities emerge through coupling and transformation.

While the ontology of difference offers a way to think the Anthropocene beyond the nature/culture divide and resists human exceptionalism, the great limitation of Deleuze's framework is its tendency toward abstraction. Difference, conceived as an endlessly generative force, risks flattening the very asymmetries and hierarchies that structure the current crisis. When paired with ESS, these frameworks produce a view of the planet as an adaptive totality in which processes are mapped as variations in an immanent field. In such a schema, extractive infrastructures and destructive emissions appear equivalent to regenerative cycles or ecological practices of care, reducing them all to modalities of differentiation. Alongside Claire Colebrook and other critics, I argued that this process of ontological flattening obscures the power relations and historical drivers that shape the Anthropocene and renders the framework susceptible to technocratic and accelerationist capture, where systemic adaptability is mobilized to justify further exploitation under the guise of optimization.

In the last section of the article, I discussed how the concept of extinction exposes the limit of both ontological frameworks. In Heidegger's case, being-toward-death individualizes Dasein and cannot register the unworlding entailed by the possibility of absolute disappearance. For Deleuze, a univocal, productive difference tends to convert loss into further differentiation, making even annihilation legible as a new composition on the plane of immanence. An understanding of extinction as the point where the very conditions of differentiation and disclosure fail would require driving these ontologies to their exhaustion, as Colebrook suggests. Therefore, a critical ontology of difference adapted to the Anthropocene would retain some of the central ideas in Heidegger's and Deleuze's frameworks but resist their tendency to center on humans and to become abstract management tools. Moreover, an updated framework of difference should include an altered relationality as well as the possibility of there being no relations at all.

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