APOCALYPTICA

Journal for Apocalyptic and Post-Apocalyptic Studies
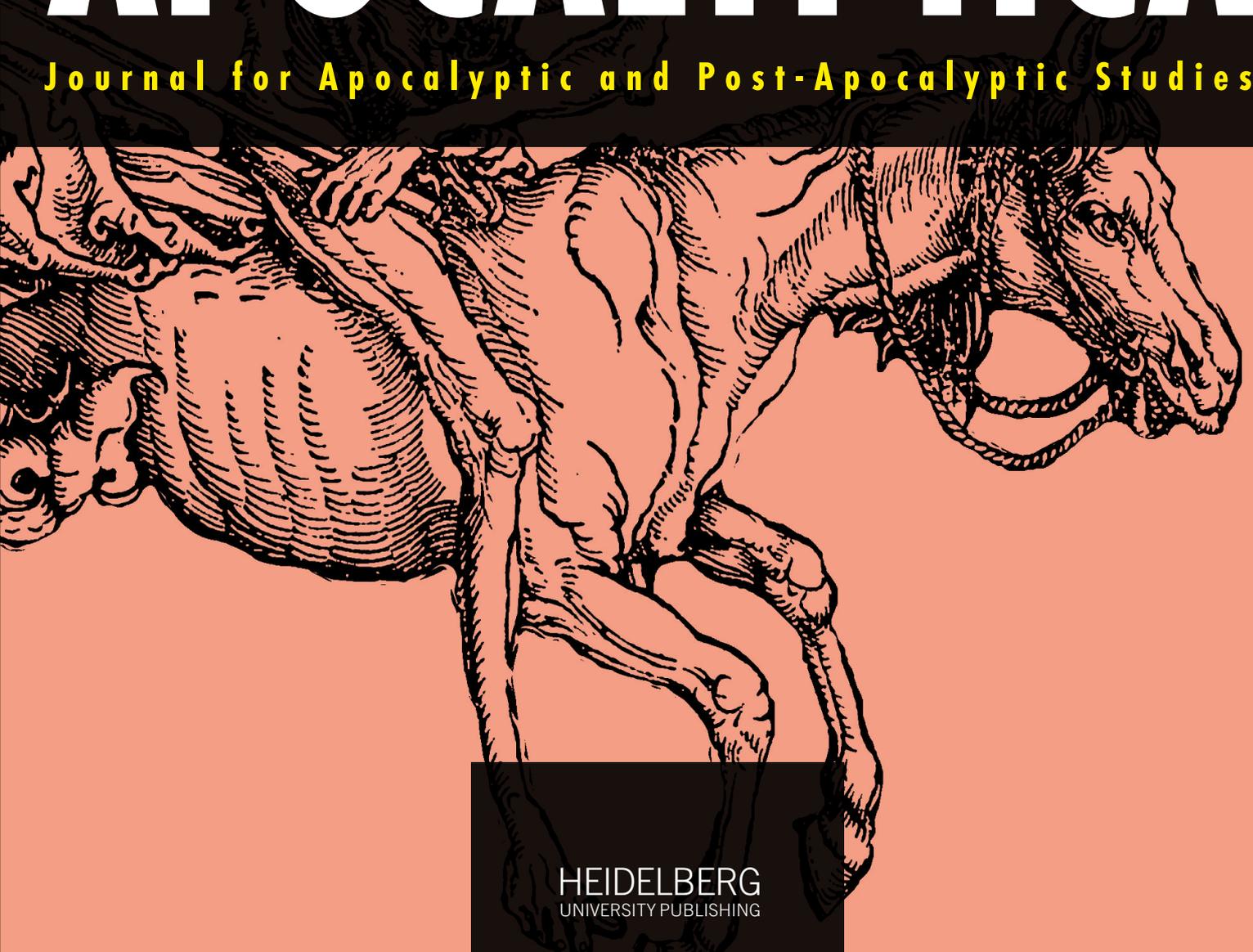
Apocalyptica

No 1 / 2024

Anthropocene and its Ends

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*Apocalyptic*a is a double blind peer reviewed journal. Submitted articles are subject to a double blind review process that decides whether they will be included in the journal.

Robert Folger   The Anthropocene and
Its Ends

When we speak of apocalypse, the popular imagination often evokes images of total destruction and absolute annihilation, an ultimate catastrophe to be avoided at all costs.[1] This widespread notion of apocalypse as the end of everything, or, at least, of the world as we made it and know it,[2] must be acknowledged and taken seriously; indeed, it constitutes the necessary starting point for any reflection on apocalyptic thinking. Nevertheless, this conception represents only one dimension of apocalyptic thinking and cannot fully account for its broader intellectual and cultural significance. As an outcome of four years of research at the Käte Hamburger Centre for Apocalyptic and Post-Apocalyptic Studies (CAPAS), I propose a more nuanced conception of the apocalyptic, one that is not limited to senseless destruction or inevitable doom. Apocalypse, as we understand it, encapsulates both crisis and opportunity, world-making and unmaking. Thus, it can signify the culmination of unsustainable dynamics, the ending of undesirable situations and developments, as well as the articulation of a desire for profound change. When crises come full circle, they can produce openings for reimagining worlds, for articulating new beginnings, and for constructing alternative futures. Thus, apocalypse functions not merely as an end, but as a threshold that foregrounds both loss and the possibility for transformation.

Taking into account this transformative potential, we emphasize four interconnected dimensions that structure the apocalyptic imaginings and experience: (1) the actual or looming collapse of systems across various scales, from universal to individual; (2) the aftermaths and temporalities following the ends of worlds; (3) the expectations and emotional attitudes toward radical, catastrophic transformation; and (4) the recognition that

[1]   As Neal Curtis points out, "apocalypse" refers increasingly, in a curious recuperation of the etymology of the word (ἀποκάλυψις: "revelation," "unveiling"), to "a collection of narratives uncovering a range of conspiracies" (Curtis 2022, 96).

[2]   Clive Hamilton refers to man as "world-making creature," expressing the idea that the world lost in apocalypse is of the order of the lifeworld, particularly referring to the "paramount reality" (Folger 2022, 26–27). Timothy Morton, however, claims that "the world as such — not a specific idea of world but world in its entirety — has evaporated (2013, 101), rhetorically, at least, subscribing to the notion that the Anthropocene's horizon is total annihilation.

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apocalypse is not exclusively a future-oriented phenomenon but has historically offered frameworks for understanding past ruptures and continues to shape present responses to real or imagined endings.

From a pragmatic standpoint, the notion of apocalypse operates not in terms of an ontological status but according to its functions: it can act as (1) an emotionally palliative or reality-avoidant fantasy in the sense of a "small-scale, therapeutic redemption" (Hammond and Ortega 2015, 111), that is, as a coping mechanism or even an instrument of manipulation; (2) a dystopian, action-guiding narrative urging the prevention of destruction and catastrophe (Moo 2015), often related to "disappointing" postapocalyptic imagery and narratives (Blanchot 1997; Zupančič 2018; Folger and Stümer forthcoming October 2025); or (3) a constructive conceptual figure, understood as a call for processes of "worldmaking."[3] This multi-faceted conceptualization of apocalypse offers a critical lens through which to approach the Anthropocene. For the Anthropocene, too, engages with the collapse of systems, radical transformations of temporalities, affects of dread, urgency and hope, and narrative frameworks that simultaneously project endings and demand the reimagining of futures.

Apocalyptic narratives and imageries provide channels through which cultural anxieties, social fears, and political ideologies are articulated. At the heart of recent intellectual and cultural representations of and debates on existentially threatening climate change, lies the concept of the Anthropocene. The notion of the Anthropocene was introduced and popularized by atmospheric chemist Paul J. Crutzen and marine biologist Eugene F. Stoermer in their seminal 2000 publication "The 'Anthropocene'," in the *Global Change Newsletter*. The term 'Anthropocene' was coined to denote a new geological epoch characterized by significant human impact on Earth's ecosystems and geological processes.[4] Crutzen and Stoermer argued that since the industrial revolution, and particularly in recent decades with intensified neoliberal capitalist globalization, the so-called Great Acceleration (Bergthaller and Horn 2022, 34–36), human activities have profoundly impacted the planet. Activities such as burning fossil fuels, extractivism, deforestation, industrial agriculture, and livestock farming have drastically increased the concentration of greenhouse gases, leading to global warming, ecosystem disruptions, and species extinctions (Crutzen 2006). Their argument posits that humanity has become a "planetary geophysical" (Chakrabarty 2021, 174) or "telluric force" (Bonneuil, Hamilton and Gemenne 2015, 4), capable of significantly altering the Earth system, a role previously occupied by non-human natural processes alone.

Despite extensive interdisciplinary research and societal debate, the Anthropocene remains a contentious and disputed concept. Notably, its

3 As Nelson Goodman (1978, 6) claims "[w]orlds are made, not found, and the making involves the invention and application of concepts, the drawing of distinctions, the organization of experience," which implies that apocalyptic ruptures create the need, and, at the same time, the possibility of the making a of a radically new world.
4 Regarding the genealogy and reception of the notion see Hannes Bergthaller and Eva Horn (2022, 25–61).

formal recognition as a distinct geological epoch was officially rejected by the International Commission on Stratigraphy (ICS) in conjunction with the International Union of Geological Sciences (IUGS) in March 2024 (Witze 2004). The primary rationale for the rejection centred on the insufficient stratigraphic evidence to substantiate the Anthropocene as a formal epoch. Critics highlighted the shallow sedimentary record and the recency of the proposed start date, arguing that these factors did not meet the stringent criteria required for defining a new epoch in the geological time scale. This decision concluded a lengthy evaluation initiated by the Anthropocene Working Group in 2009, highlighting the complexity and contentious nature of defining geological epochs through human impact. Such debates reveal a crucial tension between empirical scientific methods and theories and the broader narrative structures in which these findings are situated, raising important questions about objectivity, cultural biases, and epistemological legitimacy.

Although in its statement the ICS did not acknowledge the Anthropocene on grounds of scientific stratigraphy, it did not reject it summarily: "Despite its rejection as a formal unit of the Geologic Time Scale, the Anthropocene will nevertheless continue to be used not only by Earth and environmental scientists, but also by social scientists, politicians and economists, as well as by the public at large. It will remain an invaluable descriptor of human impact on the Earth system" (ICS 2024). This was an acknowledgment of the intriguing fact that the Anthropocene, a term meant to be strictly scientific, has been widely embraced within social sciences and the humanities; who, it is worth pointing out, the ICS did not consider worth mentioning. This paradoxical acceptance highlights an unusual dynamic: while the narrower scientific community ultimately resists formal adoption, the humanities eagerly incorporate it, accepting "Earth system science" as "the ultimate source of authority" (Chakrabarty 2021, 37), often jeopardizing their critical role as a complement to the sciences. Instead of challenging or problematizing the consequences of scientific findings, the humanities risk reifying as absolute the epistemology and ontology of science, thus undermining their potential to offer genuinely alternative and critical perspectives.

Yet, this acceptance within the humanities has proven highly productive in challenging deeply entrenched assumptions such as the binary separation of nature and culture, human exceptionalism, and linear narratives of progress. Critical reflections on and further developments of the original Anthropocene concept, including proposals of alternative notions (most importantly Andreas Malm's [2016; 2018] and Jason M. Moore's [2016] "Capitalocene") that imply different, non-universalizing

causalities,[5] yet are faithful to the basic idea of the present as an existential crisis due to misguided human activity (Bergthaller and Horn 2022, 25–43), have additionally stimulated important theoretical contributions, particularly in posthumanism, which undermine the ontological dualism between nature and culture and question traditional narratives of human agency and dominance over the natural world. Moreover, the Anthropocene's influence extends beyond academic circles, significantly impacting literature, film, visual arts, and activism, where it has inspired innovative artistic practices and environmental movements aimed at raising awareness and fostering ecological responsibility. In this sense, it also underscores the necessity for transdisciplinary approaches that engage with "pressing societal problems," as emphasized by Thomas Jahn, Matthias Bergmann, and Florian Keil (2012, 1), bridging scientific, artistic, and activist fields to create new forms of knowledge production.

Central to the potency of the Anthropocene discourse is its inherently apocalyptic dimension, predicated on a linear temporality that emphasizes imminent catastrophe. The Anthropocene thus becomes a powerful narrative device, weaving empirical data and ethical imperatives into a story that transcends scientific boundaries to embody a deeply moral and political critique. Yet, beneath the seemingly neutral and objective rhetoric of scientific discourse lies a complex ideological substratum, deeply intertwined with Eurocentric and colonial legacies, that is ultimately apologetic of anthropocentric teleology (Bonneuil 2015).

As a narrative, the Anthropocene is necessarily ideological in itself; by treating "humanity" as a singular "globalizing agent" (Folger 2024), it obscures critical distinctions of agency, power, and interest, particularly those of marginalized groups not favoured by hegemonic structures, notably in the Global South, and ultimately nullifies, in the name of the Planet, questions of justice (Chakrabarty 2021). In bestowing ultimate urgency on the political agendas associated with the Anthropocene, the apocalypse understood as annihilation functions as an "ideologeme"—a term coined by Fredric Jameson (1981, 87) to describe the smallest intelligible unit of ideology that functions as a "pseudoidea [...] or as protonarrative"—which serves to reinforce specific worldviews and maintain existing power hierarchies by universalizing particular interests and perspectives.

Furthermore, the uncritical support of scientific epistemologies within Anthropocene discourse inadvertently fosters the idea of a technological fix: the notion that, as science has led to the current ecological crises, it alone can provide the solutions to rectify these problems. This technocratic assumption, embedded within eco-modernist and eco-catastrophic paradigms, reinforces the belief in progress as technological mastery over

5 Moore (2016, 6) claims that "the modern world has not been made by humanity as an undifferentiated whole, but by capitalogenic forces mobilized through empire, class, and commodity-centered relations."

nature, neglecting alternative forms of knowledge and local, indigenous practices and wisdoms.

The persuasive urgency of this "grand narrative"[6] is thoroughly critiqued by Delf Rothe (2020), who identifies three predominant attitudes towards Anthropocene thought: eco-catastrophism, eco-modernism, and planetary realism. Eco-catastrophism and eco-modernism both hinge upon human rationality and the scientific management of planetary systems, propagating the continued dominance of Western epistemological frameworks, particularly the mostly unnoticed continuity of eschatology. In contrast, planetary realism argues that the apocalypse is already underway, foregrounding indigenous resilience and promoting local knowledge as superior in ecological adaptability. Yet, even this stance inadvertently perpetuates epistemic hierarchies and reinforces linear temporalities, revealing its limitations in genuinely disrupting dominant hegemonies and accommodating plural epistemologies (Rothe, 2020). Rothe's argument suggests that apocalyptic thinking, as inherited from the tradition of Western eschatology, paradoxically introduces a notion of continuity into concepts of the Anthropocene, thereby preventing the Anthropocene from essentially constituting what Bergthaller and Horn (2022, 23) describe as a "rupture" (*Unterbrechung*).

This inherent conceptual and ideological complexity suggests that the Anthropocene narrative, while initially perceived as an objective scientific construct, is fundamentally a narrative with profound moral and ethical dimensions. It presents itself as a comprehensive worldview, privileging specific narratives, actors, and causal relationships, and marginalizing alternative forms of knowledge. The Anthropocene asks us to rethink or "shatter" classic ontologies (Bergthaller and Horn 20–21) and, at the same time, implies a process of ontologization that not only builds on the reality of climate change but also involves a series of reifications: the Earth System, the human species and the Anthropocene itself assuming a "phantom objectivity" (Lukács 197, 83).[7] Unless it reflects its totalizing apocalyptic implication, the Anthropocene obscures critical power dynamics, social inequalities, and diverse agencies, thus limiting the scope of genuine critical discourse and action.

The present volume of *Apocalyptica* seeks to engage critically with the potentials, limitations, and implications of Anthropocene discourse, exploring how the intersection of apocalypse and Anthropocene narratives informs and constrains our contemporary understanding of ecological, social, and political crises. By presenting diverse disciplinary and interdisciplinary perspectives, the essays challenge dominant frameworks and advocate for recognizing multiple "worlds"—each marked by their

[6] Stephens and McCallum (1998, 6) define a gran narrative or metanarrative as "a global or totalizing cultural narrative schema which orders and explains knowledge and experience".

[7] Regarding the the Anthropocene and its relation to the so-called "new realisms" see Monica Kaup (2021) and also Chakrabarty (2021). Bergthaller and Horn (2022, 90–99) try to defuse the universalizing essentialism of the Anthropocene through a differentiation between "anthropos" (humanity organized in the polis and the actual destructive geological force) and "homo" (the species among other species). However, this re-sematization is hardly apt to change the political and ideological thrust of a concept commonly referring to humanity as whole as a geological force.

unique looming ends. The contributions aim to highlight non-hegemonic epistemologies and narratives, emphasizing the importance of inclusivity, justice, and sustainability.

Ultimately, following Timothy Clark (2015), I propose viewing the Anthropocene as a "threshold concept," a pivotal and transformative idea that forces inherited knowledge structures into new constellations and thereby opens up new epistemic fields. As such, the Anthropocene is potentially transformative, inviting novel ways of thinking about human existence, temporality, and planetary relations. However, this transformative potential must always be approached with caution: it is imperative to critically reflect on the ideological components, the eschatological foundations, and the reactionary implications that accompany the Anthropocene narrative.

Having outlined the conceptual and critical framework that informs this volume, we now turn to the individual contributions. While not all articles explicitly articulate the relation between apocalypse and the Anthropocene, each provides important insights into key aspects of the broader thematic field. Collectively, they expand, complicate, and challenge the ideas presented here, offering a multifaceted exploration of apocalyptic narratives of the Anthropocene, systemic transformations, and the challenges of imagining alternative futures.

Michael Löwy's article "Apocalypse, Anthropocene, Capitalism, Ecosocialism" presents a compelling synthesis of apocalyptic thought, ecological urgency, and anti-capitalist critique within the framework of ecosocialism. Löwy's central claim is that we are living in a moment that mirrors the prophetic structure of ancient apocalyptic revelations, not because the end is inevitable, but because our current trajectory—under capitalist hegemony—places us on a path of civilizational collapse. He reinterprets the prophetic warnings of destruction (such as "MENE, MENE, TEKEL, UPHARSIN" from the Book of Daniel) as analogues to the IPCC's climate reports: signs that we have been "weighed and found wanting."

Crucially, the article also questions the universalizing anthropocentrism often implicit in the concept of the Anthropocene. Löwy critiques the notion that 'humanity' as such is the geological force responsible for planetary crisis. Instead, he emphasizes that it is a historically specific mode of organizing human life—capitalism—that drives ecological destruction. Thus, 'man' in general is not the problem, but, rather, the way Western hegemony has organized human beings in a globalized world under capitalism, raising questions about climate justice, uneven resources, and vulnerability.

Löwy distinguishes between two types of apocalypse: one as fatalistic and inevitable catastrophe, and the other as a conditional, transformative warning. The former mirrors contemporary climate denial and political inaction; the latter, in his view, remains open to human agency and revolutionary change. He critiques techno-optimistic illusions, market-based pseudo-solutions, and delayed governmental pledges, arguing that only a radical break with capitalist logic—through ecosocialism—can avert irreversible climate disaster. The article concludes with a political imperative: the time for action is now. It is not merely about "saving the planet" but about reimagining our collective future. Löwy insists that hope lies not in adaptation or escape, but in resistance, in dismantling fossil capitalism, and in building a just ecological society.

Priscilla Jolly examines, in "(Sub)Terranean Intimacies: Indeterminacies of Flesh and Crystal in *The Crystal World*," J. G. Ballard's novel *The Crystal World* (1966), interpreting its crystalline apocalypse as a profound reflection on the intersections between the Anthropocene and apocalyptic narrative forms. Drawing comparative insights from Joseph Conrad's *Heart of Darkness* (1899), the author positions Ballard's portrayal of crystallization as a speculative engagement with ecological and geological catastrophes precipitated by human extractive activities. The novel's depiction of tropical regions as focal sites of transformation underscores the colonial and racialized dynamics inherent in Anthropocene discourses. Ballard's apocalyptic crystallization—turning living organisms into gemstones—represents a radical disruption of capitalist value networks, simultaneously destabilizing categories such as organic/inorganic, human/nonhuman, and life/death. Ultimately, the article argues that *The Crystal World* employs the apocalyptic mode not merely as an end-time scenario but as a critical device for reconsidering humanity's ethical responsibilities and geological agency in an epoch defined by anthropogenic environmental collapse.

Long Hoang Vu's article "Vietnam's Revolutionary Trajectory: Between Leninist Aspirations and Apocalyptic Realities" examines Vietnam's revolutionary philosophy through the concept of the 'end of history,' relating it to apocalyptic visions and Anthropocene anxieties. Focusing on historical materialism blended with Confucian values and pragmatism, it highlights Vietnam's attempts to leapfrog historical stages via scientific advances, exemplified by Phạm Tuân's symbolic 1980 space mission. Conversely, Trần Đức Thiệp´s 1992 nuclear accident embodies catastrophic consequences when ambitious ideological plans outpace infrastructure. These cases underscore the tension between revolutionary teleology—viewing communism as an apocalyptic utopia—and pragmatic adaptation required in

the Anthropocene era, suggesting history is shaped more by contingent, interconnected phenomena than by deterministic narratives.

In her article "Ongoing Apocalypse and Ecological Consciousness in Han Song's Science Fiction" Fontaine Lien explores how Han Song's *Subway* (2010) enacts a "continuously unfolding apocalypse," resisting the closure typical of science fiction and ecological narratives. Rather than offering salvation or technological mastery, *Subway* presents disorientation, mutation, and epistemic breakdown as conditions of ongoing ecological collapse. Han's use of fragmented narrative, ambiguous characters, and destabilizing typography (ellipses, slashes, and unanswered questions) reflects a world in which neither time, history, nor subjectivity can be stabilized. Unlike mainstream Chinese science fiction or nationalist apocalypse cinema, which reassert human control or state heroism, Han's vision aligns more with Buddhist and Daoist cosmologies of cyclical suffering and impermanence. Across five interconnected stories, characters drift through subterranean ruins, mutated ecosystems, and decayed infrastructures without understanding or agency. Han's apocalypse is not a singular event but an unresolvable condition—what Timothy Gilmore calls ecological "wildness" (2017). The article argues that Han's work offers a unique ecological consciousness: not through moral clarity or redemption, but by confronting the reader with the impossibility of mastery.

Subway thus becomes an anti-cathartic text for the Anthropocene—one that refuses resolution and instead demands that we learn to inhabit collapse without illusions of control. Defying the geological certainty the Anthropocene seeks to assert, *Subway* exposes the Anthropocene's lingering humanism. Rather than dramatizing human impact, it renders the human inconsequential. By foregrounding unknowability, affective unease, and cyclical futility, Han's work invites us to question whether the Anthropocene is a framework for understanding planetary crisis—or a continuation of the same anthropocentric logic it claims to critique.

The article "Desert Settings and How to See the Apocalypse" by Adam Stock examines how desert landscapes in science fiction function as critical settings through which cultural anxieties about the Anthropocene—particularly as shaped by late capitalism and extractivism—are visualized and narrated. By treating setting as an aesthetic and epistemological category, the article argues that deserts are not passive backdrops but active agents of meaning. In works such as George Miller's *Mad Max 2* (1981), the desert is a colonial wasteland emblematic of civilizational collapse and the violent continuity of extractive economies. The apocalyptic aesthetic here reinforces a conservative worldview.

In contrast, *Dune* in Denis Villeneuve's recent film adaptation mobilizes the desert as a sublime object shaped by post-Romantic and colonial photographic traditions, particularly aerial surveillance from British Mandate Iraq, forfeiting the more critical stance of Frank Herbert's novels. Stock shows how Claire G. Coleman's *Terra Nullius* (2017), on the other hand, radically reorients narrative perspective and genre mid-novel, using the desert setting to critique colonial violence and reframe the apocalyptic as a decolonial technique of vision. Ultimately, the article positions the apocalyptic as a method of seeing—estranging, historicizing, and politically potent—rather than merely as spectacle or catastrophe.

Saman Mahdevar's article "'The Wonderful Apathy of the Oriental': Famine, War, and Apocalypse in Early Modern Iran" examines the apocalyptic framing of famine and war in nineteenth and early twentieth century Iran, revealing how such crises were not only interpreted through Islamic eschatological imagery but also functioned as sites of meaning-making amidst environmental and political catastrophe. Mahdevar demonstrates how symbolic dualities—such as famine and sword—evoked both divine judgement and moral collapse, positioning natural disaster as an active force with agency, rather than as passive misfortune. This reading anticipates concerns central to the Anthropocene: the entanglement of human and nonhuman agency, and the capacity of narrative to render suffering intelligible.

Drawing on marginal texts—laments, religious treatises, and vernacular memoirs—the article situates apocalyptic thought within a cultural logic that understood catastrophe as both cosmological rupture (*qiyāmah*) and inward tribulation (*balā*). These frameworks, intensified by widespread disillusionment with clerical authority and the rise of messianic movements, enabled communities to interpret suffering as spiritually and morally charged. Mahdevar's account, as such, suggests that apocalyptic narratives in early modern Iran operated analogously to contemporary Anthropocene discourses: offering a symbolic grammar for representing the collapse of ecological and social order, while simultaneously reinscribing agency in moments of overwhelming loss. The apocalyptic imagination, here, does not foreclose understanding but animates a poetics of crisis. It reconfigures human-environment relations by sacralizing the nonhuman—bread, soil, sky—transforming them into legible signs of historical and metaphysical consequence. In doing so, the article contributes to broader debates on how cultures process planetary-scale disruptions through narrative form and symbolic excess.

The article "Inheriting Apocalypses: Representations of the Anthropocene in Contemporary Brazilian Literature" by Ana Rüsche and George

Augusto do Amaral examines how Brazilian contemporary novels represent ecological and colonial apocalypses through dystopian narratives that challenge dominant conceptions of a singular, future apocalypse. Rather than portraying the end of the human species or the planet per se, these works critique an unsustainable mode of existence tied to colonial-capitalist extractivism and climate crisis. The authors analyse three novels—Ignácio de Loyola Brandão's *Não verás país nenhum* (1981), Joca Reiners Terron's *A morte e o meteoro* (2019), and Natália Borges Polesso's *A extinção das abelhas* (2021)—each of which satirizes societal decline while foregrounding alternative epistemologies and collective resilience.

Brandão's novel envisions a dystopian Brazil devastated by authoritarian modernization and ecological collapse. Terron's work allegorizes the extermination of indigenous worlds, linking them to planetary catastrophe. Polesso's fragmented narrative maps societal disintegration but gestures toward escape through solidarity. Drawing on decolonial and Amerindian perspectives, especially the work of Eliane Potiguara and Ailton Krenak, the article argues that many indigenous peoples have already experienced apocalypses. The authors advocate abandoning the Eurocentric idea of a single world and single end, proposing instead a multiplicity of worlds and situated endings as a critical framework for understanding and resisting the Anthropocene.

The article by Nasreddine EL Guezar titled "Science as a Discourse of Power in Apocalyptic Times in the Film *Don't Look Up*" offers a critical reading of Adam McKay's 2021 film *Don't Look Up*, moving beyond its satirical surface to interrogate the epistemic authority of science within the cultural logic and ideology of the Anthropocene.

While the film is widely interpreted as a critique of political inertia and public apathy toward ecological catastrophe, EL Guezar emphasizes how it simultaneously reasserts science as the singular framework through which apocalypse must be understood and managed. Drawing on Foucault's theory of discourse and power/knowledge, the article argues that the film positions science not only as a bearer of truth, but as a disciplinary apparatus that demands submission to its epistemic order. In doing so, it inadvertently sustains a key myth of the Anthropocene: that technoscientific rationality alone can avert planetary collapse.

By foregrounding this critique, EL Guezar exposes the film's complicity in reproducing the very logic it seems to condemn—a logic in which ecological crisis is depoliticized and reduced to a problem solvable by elite expertise, rather than by structural transformation. The article thus contributes to apocalyptic critique by challenging the assumption that science can fix the Anthropocene, and calls for a broader interrogation of

the discursive regimes that shape how apocalypse is imagined and governed.

In "Growing Up(side Down): Impending Doom and the Fight Against Otherworldly Monsters as Narrative Devices and Imagery in *Stranger Things*," Timo Storck interprets the popular series as a cultural enactment of apocalyptic affects and psychic disintegration. Drawing on psychoanalytic theory, he frames apocalypse not as a singular catastrophic event but as a trope for revelation; specifically, the unveiling of doom and the end of a world. This ending may be collective, as in the social unraveling within *Stranger Things,* but also deeply individual, experienced in the form of trauma, loss, and psychic rupture.

Storck emphasizes how the "Upside Down" functions as a spatial metaphor for the unconscious and its buried affects. Here, trauma takes shape as something monstrous and invasive, and the boundary between inner and outer reality dissolves. Characters such as Eleven and Will are portrayed not just as victims of external threat, but as figures of internal devastation which are, in turn, subjectivities shaped by abandonment, violence, and institutional failure. The series' 1980s retro aesthetics and nostalgia, as well as horror motifs, support this affective atmosphere, combining familiarity with disquiet to expose hidden psychic wounds.

While Storck does not focus on a specific apocalyptic event, his reading illuminates what apocalyptic framing does to the subject: it forces confrontation with uncontainable affect, disorients temporal continuity, and renders the self precarious. In this sense, *Stranger Things* mirrors the psychic experience of the Anthropocene, where slow violence, ecological loss, and existential uncertainty destabilize personal and collective coherence. Apocalypse, then, is less an ending than a disclosure of ongoing disintegration: a crisis of world, self, and relation.

The present issue of *Apocalyptica* concludes with two book reviews. Natalia López discusses the edited volume *Utopian and Dystopian Explorations of Pandemics and Ecological Breakdown: Entangled Futurities* (2024), published by Heather Alberro et al. Against the backdrop of an intensifying polycrisis, the volume frames contemporary emergencies through the lens of urgency as an imminent apocalyptic condition. Federico Divino reviews Dorothy Zinn's translation of Ernesto de Martino's *The End of the World: Cultural Apocalypse and Transcendence,* in which the eminent Italian anthropologist offers an innovative analysis of classical apocalyptic themes by examining the interplay between human subjectivity and its cultural embeddedness.

Taken together, the essays in this issue of *Apocalyptica* on the Anthropocene and its Ends demonstrate how the critical lens of apocalypse—far

from being merely a symbol of ultimate destruction—functions as an incisive conceptual tool to interrogate the entanglements of power, knowledge, historical violence, and planetary transformation in the Anthropocene. Yet, this deployment of apocalypse is not without danger: as several contributors suggest, the apocalyptic signifier can itself be instrumentalized, marshalled into justification of exceptional interventions, securitized futures, or technocratic controls. When destruction is framed as inevitable, or when salvation is monopolized by particular epistemologies—most often scientific, colonial, or positivistic—the apocalypse risks of becoming an ideologeme and a legitimating frame for disciplinary governance rather than a radical critique of its conditions. It can become, in other words, a technology of power that mystifies agency and forecloses alternative futures.

Across the contributions, however, apocalypse emerges less as a teleological endpoint than as a mode of revelation and critique: a discursive rupture that exposes the unsustainable logics of modernity, capitalism, and extractivism, and invites radically alternative ways of seeing and being. From Michael Löwy's ecosocialist recovery of prophetic warnings, to Fontaine Lien's theorization of Han Song's "ongoing apocalypse" as disorientation without catharsis, to Ana Rüsche and George Augusto do Amaral's critique of the fiction of a single world and a single ending, the articles resist both fatalism and instrumentalization. They insist instead on the multiplicity of worlds already lost, already inherited, and still in struggle.

A critical apocalypse, then, is not an eschatology of despair nor a blueprint for disciplinary order, but a semiotic and political device; a lens that makes visible the concealed violence of the present and destabilizes the normative temporalities of progress and collapse alike. It stages the Anthropocene not as a geological destiny, but as a contested horizon shaped by colonial legacies, capitalist futurities, and speculative resistances. In doing so, this collection challenges us to engage the figure of the end not as a terminus, but as a recursive site of historical reckoning and imaginative responsibility.

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MENE, MENE, TEKEL UPHARSIN
Apocalypse, Anthropocene, Capitalism, Ecosocialism

As is well known, the word 'Apocalypse' means 'Revelation' in Greek. However, since Saint John's Apocalypse, it has become associated with 'catastrophe.'

One of the early apocalyptic writings is the Hebrew *Book of Daniel* (2nd century BC)[1], which describes a feast at Belshazzar's palace in Babylon. A mysterious hand writes on the wall the Hebrew words "MENE, MENE, TEKEL, UPHARSIN." David interprets them for the king: "MENE, God has numbered the days of your kingdom and brought it to an end; TEKEL, you have been weighed […] and found wanting; and UPHARSIN, your kingdom is divided and given to the Medes and Persians." A few hours later, the prophecy was fulfilled, Belshazzar was killed, and his empire divided.

This kind of apocalyptic prophecy is a prediction of the future, an inevitable and catastrophic condition. But in the Ancient Testament, one can find another type of prophecy, a 'conditional one.' For instance, when the prophet Jeremiah says: "O Jerusalem, wash thine, heart of wickedness, that thou mayest be saved." Otherwise, there will be "destruction upon destruction;" and "the whole land shall be desolate" (Jeremiah 4:14, 20, 27).[2]

Translated into the profane, twenty-first century conditions: unless we eliminate a perverse ('wicked') system, the whole planet will be desolate. The future is in our hands; nothing is inevitable, and there is still time to save us from destruction. The reports of the IPCC (International Panel on Climate Change) are our 'writing on the wall.' If we do not listen to this

1 The translation from Hebrew is from the author.
2 The translation from Hebrew is from the author.

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warning, "our days are be numbered." Human civilisation on planet Earth will not be "divided" but erased.

The Climate Crisis: The Seventh Circle of Hell?

The ecological crisis is already and will increasingly become in the coming months and years, the most significant social and political issue of the twenty-first century. This crisis has multiple aspects. In its 2015 report, the International Geosphere-Biosphere Programme (IGBP) concluded that five planetary sustainability thresholds have already been exceeded: biodi-versity—we are witnessing the Sixth Extinction of species—soil, nitrogen, and climate. An obvious example, to illustrate the consequences of biodi-versity destruction, and among said endangered species are bees, who are victims of pesticide use (Brazil leads globally in this practice). As we know, bees are responsible for pollinating flowering plants, which include most fruits. Without bees, there will no longer be honey or fruits.

However, among all ecological crises, climate change is undoubtedly the gravest: it poses a direct threat to all living species, including our own.

How is climate change explained? For several decades now, there has been a scientific consensus, reflected in the resolutions of the Intergov-ernmental Panel on Climate Change (IPCC), which summarises the work of thousands of scientists worldwide. According to this consensus, climate change is caused by human action, which emits greenhouse gases into the atmosphere. A small number of scientists, well paid by fossil fuel lob-bies (oil, coal), have attempted for years to cast doubt on this diagnosis, fuelling so-called 'climate scepticism,' but their credibility is increasingly diminished.

In the United States, the Koch brothers, millionaire coal producers, generously fund pseudo-research aimed at promoting climate denialism. It is interesting to note that, many years ago, some honest scientists, even while working for oil companies, warned about the dangers: for example, Marion King Hubbert, chief geological adviser to the multinational oil company Shell, wrote in 1962: "It is proven that the growing use of fossil fuels seriously contaminates the Earth's atmosphere with CO_2. It is pos-sible that this is already producing a secular climate change, with higher average temperatures." Yet, multinational companies ignored these warn-ings and sought to conceal the information.

In Brazil, Jair Bolsonaro's government actively proposed climate deni-alism. In 2019, during his first year in office, Jair Bolsonaro (PL) declared that global warming was a "commercial game" when commenting on the

United Nations Climate Change Conference (COP-25), which was supposed to have been held in Brazil but was rejected by the former president. His Minister of the Environment, Ricardo Salles, also abandoned plans to host COP-25 in Brazil that year. When questioned, he stated that climate change was "a controversial academic subject" and that there was "a lot of alarmism about the issue."

Despite these denialist attempts, scientific consensus tends to be increasingly accepted. Considering that human intervention caused climate change, several geologists are now using the word "Anthropocene" to describe a new geological era that succeeds the Holocene, which lasted thousands of years and was characterised by a stable climate favourable to life on the planet.

What is this greenhouse effect, responsible for global warming? It is a natural phenomenon caused by the concentration of gases in the atmosphere. These gases form a layer that allows solar rays to enter while trapping heat on Earth. This process is essential to maintaining a suitable temperature on the planet, ensuring the survival of living beings. However, the increasing emission of these gases by human activity produces an excess greenhouse effect. With this accumulation of gases, more heat is being retained in the atmosphere, resulting in rising temperatures. This situation gives rise to global warming. The planet then, as the name of the effect suggests, is turned in to a greenhouse for tropical plants in a botanical garden, where heat is artificially stored.

On can compare the greenhouse effect to what occurs inside a parked vehicle, with the windows closed and directly exposed to sunlight. While the glass allows sunlight to enter, it prevents heat from escaping, increasing the interior temperature.

The greenhouse effect is a natural phenomenon but is intensified due to the increasing burning of fossil fuels, which form the foundation of industrialisation and many human activities. Forest fires, set to convert land for agriculture, cattle ranching, and pastures, also contribute to increasing the greenhouse effect.

The main greenhouse gases are:
- Carbon Monoxide (CO): A colourless, flammable, odourless, and toxic gas produced by burning under low-oxygen conditions and at high temperatures from carbon-rich materials such as petroleum derivatives.
- Carbon Dioxide (CO_2): Released through the burning of fossil fuels used in motor vehicles, coal in industries, and forest fires. Its duration in the atmosphere is over a hundred years for the larger fraction and over a thousand years for a smaller part.

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- Nitrogen Oxides (NO_x): A set of compounds formed by the combination of nitrogen and oxygen. These are used in internal combustion engines, furnaces, stoves, boilers, incinerators, the chemical industry, and the explosives industry.
- Methane (CH_4): A colourless, odourless, and toxic gas when inhaled. It is released through the digestion of herbivorous animals, the decomposition of organic waste, the extraction of fossil fuels, and other processes. Its atmospheric lifespan is only 12 years, but its warming effect is 25 times greater than that of CO_2.

According to measurements from the Mauna Loa Observatory in Hawaii, a global reference point, the CO_2 concentration in January 2024 was 426 ppm (parts per million) compared to 300 ppm in 1958. "We have never reached such a figure in 14 million years," observed Nathalie Huret, Professor of Physical Chemistry at the University of Clermont Auvergne in France.

If the current atmospheric concentration rate continues proportionally, climate scientists estimate that temperature may increase by 2.5 to 5°C between 2025 and 2050. In other words, the future of the planet and, therefore, of humanity will be decided in the coming decades. In the last century, a great philosopher, Hans Jonas, published a book entitled *The Imperative of Responsibility* (1984). In it, he demanded the establishment of ecological policies as our duty to future generations. This argument is now outdated. Today's generations, especially young people, will be the victims of the ecological crisis regardless.

As the IPCC reports explain, if the average temperature increases by more than 1.5°C compared to pre-industrial levels, an irreversible process of climate change is likely to begin. The delusional billionaire Elon Musk proposes escaping climate change by launching into space on a private rocket to Mars. We wish him a pleasant journey and an enjoyable stay.

The risks of catastrophe are unprecedented in the history of humanity. We would have to go back to the Pleistocene, millions of years ago, to find climatic conditions similar to those that could develop in the coming decades.

It Has Already Begun

In truth, the climate crisis has already begun. Each year is the hottest on record. Daily in the news we witness massive forest fires, floods, droughts, failed harvests, endangered and dying species, disappearing rivers, and

regions of the planet where rising temperatures make any activity impossible. The list goes on. The number of victims is steadily increasing across all corners of the planet. Most of us can feel the onset of global warming directly on our skin at any time of the year. Where are we heading?

Scientists admit that their forecasts so far have been far too optimistic. The process of climate change is advancing much faster than predicted. Dramatic events are likely to occur not at the end of the century but within the coming decades. Here are some examples:

1. **Melting Polar Ice and Rising Sea Levels**

Everything is accelerating, whether in Greenland or Antarctica. Sea levels are rising inexorably. If all the ice melts, the rise could reach 80 metres. Only a few metres are enough for the major coastal cities of human civilisation—Venice, Amsterdam, London, New York, Rio de Janeiro, Shanghai—to disappear beneath the sea.

2. **Melting of Large Glaciers in the Alps, Himalayas, and Elsewhere**

This will initially cause massive flooding. In a second phase, the great rivers will dry up. This will obviously have a detrimental effect on clean drinking water.

3. **Global Warming, Forest Fires, and Drought**

These will lead to desertification of the land. Agriculture will become impossible across large areas which have experienced desertification.

4. **Rising Temperatures Leading to Uninhabitability**

How high could temperatures rise? At what point will human life—and that of many other species—become threatened? Recent studies show that the surface area of Greenland's ice sheet above 2,000 metres that has melted is 150% larger than the average measured between 1988 and 2006. According to Richard Alley, a glaciologist at Penn State University, Greenland's ice sheet melting—once calculated to occur over hundreds of years—could now happen in just a few decades.

The general acceleration of climate change can be explained, among other factors, by feedback effects. Here are some examples:

1. **Reduction of Albedo (White Ice Reflectivity)**

The melting of Arctic glaciers, already underway, reduces albedo, which refers to the white ice surfaces that reflect solar radiation. White ice is then replaced by the darker ocean surface, which absorbs solar rays and subsequently warms. Rising ocean temperatures accelerate the melting of polar ice caps, and vice versa.

2. Forest Fires

Mega forest fires,[3] which are multiplying across all continents, result from global warming and, in some cases, are intentionally caused by agribusiness expansion. Consequently, forests, which act as 'carbon sinks' by absorbing CO_2 from the atmosphere, lose part of their absorption capacity due to said fires. Furthermore, the fires emit millions of tonnes of carbon dioxide into the atmosphere through smoke, further contributing to rising temperatures. Global warming encourages more fires, and vice versa.

There are even more dangerous feedback mechanisms. Poorly studied until now, they are not included in IPCC models but could trigger a qualitative leap in the greenhouse effect:

1. Carbon in Permafrost

Some 400 billion tonnes of carbon are currently trapped in permafrost—the frozen tundra stretching from Canada to Siberia. If polar glaciers are beginning to melt, why wouldn't permafrost also thaw? As it decomposes, this carbon transforms into methane, a greenhouse gas far more potent than CO_2.

2. Methane Clathrates in Oceans

Astronomical quantities of methane—at least one trillion tonnes—are found in deep ocean deposits as methane clathrates. If oceans warm, this methane could be released into the atmosphere, causing a sudden surge in climate change. Additionally, this gas is flammable: Russian researchers have observed methane emissions in the Caspian Sea in the form of flaming torches rising hundreds of metres high.

3. Warming Beyond Six Degrees

The researcher Mark Lynas concludes that a planet six degrees warmer would be far worse than Dante's depiction of Hell in *The Divine Comedy* (Lynas, 2007: 256).

Moreover, according to an IPCC report, the temperature increase could exceed six degrees, previously considered the maximum foreseeable.

All these processes start very gradually but, after a certain point, can develop into qualitative leaps. The most worrying threat, increasingly considered by researchers, is therefore that of uncontrollable climate change, a rapid and irreversible warming trend. Few worst-case scenarios are being explored, such as temperatures rising beyond 2–3 degrees Celsius: scientists avoid painting catastrophic pictures, but we already know the risks involved. At a certain temperature, will Earth remain habitable

3 Wildfires that burn more than 45,000 hectares of land are considered megafires.

for our species? Unfortunately, we currently do not have a backup planet anywhere in the known universe.

Discussing these 'worst-case scenarios' is not a futile exercise in apocalyptic thinking: these are real dangers, and we need to be fully aware of them. Nor is this fatalism: there is still time to act and reverse the course of events. But we need the pessimism of reason before making room for the optimism of the will.

In *The Divine Comedy,* Dante Alighieri described the condition of the condemned in the Seventh Circle of Hell as wandering across a vast expanse of barren, burning sand, subjected to a rain of flames (Alighieri 1963, 963).

Is this the future that awaits us? If we allow things to continue as they are, we cannot rule out this outcome.

The proponents of 'collapsology' solemnly claim that 'hope is toxic' and that it is better to 'stop fighting' since collapse is inevitable (Servigne, Chapelle, Stevens, 2018).

However, contrary to what these heralds of the apocalypse assert, the future is not yet written. Fatalists who loudly proclaim that the die is cast are, with their call for inaction, contributing to the fatal outcome. Struggle, resistance, and systemic change are possible — but they are urgent.

Eleven False Leads About Climate

Countering Commonplaces that Hinder the Fight against Climate Change

Across the various discourses on climate, we encounter countless commonplaces, repeated endlessly in various forms, that constitute false leads. These, whether intentionally or not, lead to ignoring the real issues or believing in pseudo-solutions. Here, I am not referring to denialist discourses but rather to those that present themselves as 'green' or 'sustainable.' These assertions vary widely in nature: some are outright manipulations, fake news, lies, and deceptions; others are half-truths or even quarter-truths. Many are filled with goodwill and good intentions and, as we know, the road to hell is paved with those.

This is the path we are on: if we continue with business as usual — even painted green — within a few decades, we will find ourselves in a far worse situation than most of the circles of hell described by Dante Alighieri in *The Divine Comedy*. The following eleven examples are just some of these commonplaces to avoid.

1. The Planet Needs to Be Saved

This phrase is everywhere: on posters, in the press, in magazines, and statements by political leaders. Actually, it is nonsense: Planet Earth is not in danger! Regardless of the climate, it will continue orbiting the sun peacefully for millions of years. What is threatened by global warming are the diverse forms of life on this planet, including our own species: *Homo sapiens*. 'Saving the planet' gives the false impression that this is about something external to us, far removed, and unrelated to our immediate concerns. We do not urge people to care about their own lives or the lives of their children but instead about a vague abstraction: 'the planet.' It is unsurprising, as such, that less politically engaged individuals respond by saying: 'I am too busy with my own problems to worry about "the planet."'

2. Let's Do Something to Save the Planet

This overused commonplace is a variation of the previous formula. It contains a half-truth: everyone should contribute personally to avoid catastrophe. However, it fosters the illusion that accumulating 'small gestures'—turning off lights, closing taps, etc.—is enough to avert disaster. In this way, consciously or not, it dismisses the need for profound structural changes in the current modes of production and consumption—changes that challenge the very foundations of the capitalist system, which is based on a single criterion: profit maximisation.

3. The Polar Bear Is in Danger

This image is ubiquitous, repeated endlessly: a poor polar bear struggling to survive on a drifting iceberg. Indeed, the polar bear's life—and that of many other species in polar regions—is under threat. This image may evoke compassion in a few generous souls, but for most of the population, it seems like an issue that does not concern them directly.

The melting polar ice caps, however, threaten not only the brave polar bear but, in the long term, half—if not more—of humanity that lives in major coastal cities. The melting of Greenland's and Antarctica's massive glaciers could raise sea levels by dozens of metres. Just a few metres would suffice to submerge cities like Venice, Amsterdam, London, New York, Rio de Janeiro, Shanghai, and Hong Kong. While this will not happen next year, scientists observe that the rate of melting is accelerating. It is impossible to predict how quickly this will occur, as many factors are challenging to calculate at this time.

By focusing solely on the plight of the polar bear, we obscure the terrifying reality that this is an issue affecting us all.

4. Bangladesh Faces the Greatest Risk from Climate Change

This is a half-truth, full of goodwill: global warming will disproportionately affect poor countries in the Global South, which bear the least responsibility for CO_2 emissions. It is true that these countries will suffer the most from climate disasters, hurricanes, droughts, reduced water sources, and more. But it is false to suggest that the Global North will not be significantly affected by these same dangers. Haven't we already witnessed devastating forest fires in the United States, Canada, and Australia? Have heatwaves not caused numerous deaths across Europe? The examples are endless. If we sustain the impression that these threats only concern the peoples of the Global South, we will mobilise only a tiny minority of committed internationalists. However, sooner or later, humanity as a whole will confront unprecedented catastrophes. It is essential to explain to the populations of the Global North that this threat also weighs directly upon them.

5. By 2100, Temperatures Could Rise by Up to 3.5°C (Above Pre-Industrial Levels)

This claim is regrettably found in many serious documents. It appears to be a dual error:

- From a Scientific Perspective:
  We know that climate change is not a linear process; it can experience 'jumps' and sudden accelerations. Many dimensions of global warming are self-reinforcing, and the consequences of this are unpredictable. For instance, forest fires emit massive amounts of CO_2, contributing to warming, which in turn intensifies forest fires. Thus, it is extremely challenging to predict what might happen in four or five years, let alone a century.

- From a Political Perspective:
  By the end of the century, we will all be dead, along with our children and (most of) grandchildren. How can we mobilise attention and engagement for a future that seems so distant and disconnected from people's immediate lives? Should we care about future generations? This is a noble thought, long advocated by the philosopher Hans Jonas (1984): our moral duty to those yet unborn. A small minority of highly respectable individuals might be moved by this argument. For most people, however, what happens in 2100 is of little relevance.

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6. By 2050, We Will Achieve Carbon Neutrality

This promise from the European Union and various governments is neither a half-truth nor naïve goodwill; it is pure and simple deception for two reasons:

- Instead of committing to the urgent changes demanded by the scientific community (IPCC) over the next 3–4 years, our leaders promise wonders for 2050. This is obviously far too late. Moreover, as governments change every 4–5 years, what guarantees exist for these fictitious commitments in 30 years? It is a grotesque way of justifying present inaction with a vague promise for the distant future.
- 'Carbon neutrality' does not necessarily mean a drastic reduction in emissions. On the contrary, it relies on deceptive calculations involving offsets and 'compensation mechanisms': a company may continue emitting CO_2 but claim neutrality by planting a forest in Indonesia, which supposedly absorbs an equivalent amount of CO_2 — assuming it doesn't catch fire. Environmental NGOs have already thoroughly exposed the fraud behind offsets, so I won't elaborate. But this illustrates the sheer deception behind the promise of 'carbon neutrality.'

7. Our Bank (or Oil Company, etc.) Funds Renewable Energy and Thus Supports the Green Transition

This commonplace of greenwashing also forms part of the deception and manipulation. Of course, banks and multinationals also invest in renewable energy, but detailed studies by ATTAC and other NGOs have shown that these investments constitute only a small — and sometimes minuscule — portion of their financial operations: the bulk of their funding continues to flow into oil, coal, and gas. It is simply a matter of profitability and competition for market share.

All 'reasonable' governments — unlike the governments of Donald Trump, Jair Bolsonaro, and their ilk — also solemnly swear in all tones that they are committed to ecological transition and renewable energy. However, whenever there is a problem with the supply of a fossil fuel — recently gas, due to Russian policies — they retreat to coal, reactivating coal-fired power plants, or beg the (bloody) Saudi royal family to increase oil production.

The fine rhetoric about 'ecological transition' conceals an unpleasant truth: it is not enough to develop renewable energy sources. First of all, renewables are intermittent: the sun does not always shine in Northern Europe. While technical progress has been made in this area, it cannot

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solve everything. Moreover, renewable energy requires mineral resources that are at risk of running out. While wind and sunlight are unlimited, the materials needed to harness them (lithium, rare earth elements, etc.) are not. It will therefore be necessary to consider a reduction in overall energy consumption and a selective decrease — measures that are unthinkable within the framework of capitalism.

8. **Thanks to Carbon Capture and Storage Technologies, We Will Avoid the Climate Catastrophe**

This argument is increasingly used by governments and even appears in some serious scientific documents (the IPCC reports). It is the illusion of a miraculous technological solution that would save the climate without requiring any changes to our (capitalist) mode of production and way of life.

Unfortunately, the sad truth is that these miraculous carbon capture and storage technologies are far from being a reality. Certainly, some attempts have been made, and a few projects are underway here and there, but at present, it cannot be said that this technology is effective or operational. It has yet to resolve the challenges of capture or storage (in underground regions impermeable to leaks). And there is no guarantee it will succeed in the future.

9. **Thanks to Electric Cars, We Will Substantially Reduce Greenhouse Gas Emissions**

This is another example of a half-truth: it is true that electric cars are less polluting than combustion-engine vehicles (gasoline or diesel) and, therefore, less harmful to the health of urban populations. However, from the perspective of climate change, their overall balance is much more mixed. They emit less CO_2 but contribute to a disastrous 'all-electric' situation. In most countries, electricity is produced using fossil fuels (coal or oil). The reduction in emissions from electric cars is 'offset' by the increase in emissions resulting from higher electricity consumption. In France, electricity is produced by nuclear energy — another dead end. In Brazil, it comes from mega-dams that destroy forests and consequently result in a poor carbon balance. Not to mention the lithium and cobalt needed by electric batteries whose extraction is also a source of emissions.

If we want to drastically reduce emissions, we cannot avoid significantly reducing private car usage by promoting alternative means of transportation: free public transport, pedestrian areas, and cycle paths. Electric cars maintain the illusion that we can continue as before by simply changing the technology.

10. By Using Market Mechanisms, Such as Carbon Taxes or Emission Trading Schemes, or by Increasing Fossil Fuel Prices, We Will Reduce CO2 Emissions

For sincere environmentalists, this is an illusion; in the mouths of governments, it is outright deception. Market mechanisms have demonstrated their complete inefficiency in reducing greenhouse gas emissions worldwide. Not only are they anti-social measures that place the burden of the 'ecological transition' on the working classes, but they are also fundamentally incapable of contributing significantly to limiting emissions. The spectacular failure of the 'carbon markets' instituted by the Kyoto Protocol agreements is the best demonstration of this.

We cannot curb the absolute power of fossil fuels—which have kept the system running for two centuries—with 'indirect,' 'incentivising' measures rooted in the logic of the capitalist market. To start, it will be necessary to expropriate capitalist energy monopolies and create a public energy service aimed at drastically reducing fossil fuel exploitation.

11. Climate Change Is Inevitable, We Can Only Adapt

This type of fatalistic assertion can be found in the media and among 'responsible' politicians. For instance, Christophe Béchu, France's former Minister for Ecological Transition under Macron's government, recently (February 2024) declared that since we cannot avoid global warming, no matter what efforts we make, we must focus on limiting its effects while adapting to it.

This is an excellent recipe for justifying inaction, immobility, and the abandonment of any 'effort' to try to prevent the worst. However, IPCC scientists have clearly explained that, although warming has indeed begun, it is still possible to avoid crossing the 1.5°C red line—provided we immediately begin significantly reducing CO_2 emissions.

Certainly, we must try to adapt. But if climate change becomes uncontrollable and accelerates, 'adaptation' is nothing but a sham. How do we 'adapt' to temperatures of 50°C?

These examples could be multiplied. They all lead to the conclusion that if we want to avoid climate change, we must change the system—namely, capitalism—and replace it with another mode of production and consumption. This is what we call 'ecosocialism.'

Anthropocene = Capitalocene

Who is responsible for this unprecedented threat in the millennial history of humanity? The scientific consensus, represented by the IPCC, is that global warming is not a natural phenomenon—unlike typical climatic changes—but rather a product of greenhouse gas emissions resulting from human intervention. For this reason, several geologists suggest that we are entering a new geological era called the Anthropocene.[4] This is a geological era in which the condition of the planet and its climate depend on human actions and are being transformed by them.

This explanation is scientifically accurate but politically somewhat incomplete. Humanity, the *Anthropos,* has lived on this planet for tens of thousands of years, since the appearance of *Homo sapiens*. However, the problem of global warming—the accumulation of gases in the atmosphere—is very recent, stemming from the Industrial Revolution. It began in the mid-eighteenth century with the intensive use of coal, which led to the accumulation of these gases. This process intensified significantly in recent decades: the decades of neoliberal capitalist globalisation. Therefore, the culprit in this story is not 'humankind' in general but rather a specific model of 'human action': modern industrial capitalist civilisation, particularly in its global neoliberal form. A civilisation that has, for three centuries, been entirely reliant on fossil fuels—coal, oil, and gas—and which, despite all rhetoric, shows no intention of abandoning them. A civilisation that has developed forms of industrial agriculture and livestock farming, which are significant sources of greenhouse gas emissions (particularly methane). The capitalist system is, therefore, the principal cause of the current ecological crisis and the threat hanging over humanity.

The crisis does not stem from overpopulation, as some neo-Malthusian ecologists claim, who propose 'reducing' the global population through epidemics and famine. Continents with the highest demographic growth, such as Africa, contribute very little to greenhouse gas emissions, whereas Europe, with its declining population, has a significant impact. The ecological crisis results from the process of capital accumulation, particularly in its current form of neoliberal globalisation under the hegemony of the U.S. empire.

This is not about the 'ill will' of a particular multinational corporation or government—though these undeniably exist—but rather the inherently perverse logic of the capitalist system. This system is based on ruthless competition and demands for swift profitability, ; a logic that is necessarily destructive to the environment and responsible for catastrophic climate change. This alone is the essential element, the motor of this process and

4   The first use of the term can be found in Paul J. Crutzen and Eugene F. Stoermer (2000, 17–18).

its destructive dynamics: it corresponds to the need for unlimited expansion—what Hegel called "bad infinity"—an endless process of commodity accumulation, capital accumulation, and profit accumulation, which is inherent to the logic of capital.

The question of ecology, of the environment, is a question of capitalism. To paraphrase an observation by Frankfurt School philosopher Max Horkheimer (1939, 155) —"If you don't want to talk about capitalism, you'd better not talk about fascism"—I would add: if you don't want to talk about capitalism, there's no point in discussing the environment. The environment's destruction, devastation, and poisoning are products of the capital accumulation process. This is not solely about economics: capitalism is a civilisation, a mode of production and consumption, a way of life—like the famous American way of life—a way of thinking and acting that places the market, money, and commodities at its core values.

Some eco-Marxists, such as the brilliant Colombian essayist Renán Vega Cantor (2019), considering the responsibility of capitalist civilisation in climate change, propose the term 'Capitalocene' instead of 'Anthropocene.'[5]

Other eco-Marxists, such as the renowned Canadian author Ian Angus (2016), prefer to use the term adopted by geologists, 'Anthropocene,' while explaining that the human action in question is capitalism. Regardless of the term used, what is essential is to make clear that the destructive logic of capitalist accumulation is the cause of the ecological crisis in general and global warming in particular.

It could be argued that 'non-capitalist' countries—self-described as the embodiment of 'real socialism,' although this label is highly debatable—such as the USSR and other nations before 1989, also engaged in environmentally destructive practices. This is true and can be explained by the fact that they increasingly sought to mimic and replicate the capitalist production apparatus. Indeed, some Marxists referred to these regimes as 'state capitalism.' In any case, since 1989, market capitalism has dominated the entire planet.

Many ecologists tend to criticise individual behaviours, such as excessive use of planes or cars, consumerism, the acquisition of unnecessary goods, and disregard for nature. While not denying the harmful nature of these behaviours, ecosocialists observe that they are products of the capitalist system itself and cannot be substantially changed without systemic transformation. It is necessary to radically transform not only products and their consumption but also the mode of production.

Ecosocialists and eco-Marxists are not the only ones who recognise the systemic nature of the crisis and capitalism's role. The large youth-led climate movement adopted the slogan: "Change the System, Not the

5 Among the first to use this term are Andreas Malm and Alf Hornborg (2014), and subsequently Jason W. Moore (2016).

Climate." Swedish activist Greta Thunberg, a courageous spokesperson for this movement, declared: "It is mathematically impossible to resolve the ecological crisis within the frameworks of the current economic system."

An important contribution in this direction comes from an unexpected figure: Pope Francis. In his well-known ecological encyclical *Laudato Si'* (2015), Pope Bergoglio observes that ecological disasters and climate change are not merely the result of individual behaviours—though these play a role—but rather of "current models of production and consumption." Bergoglio is not a Marxist, and the word 'capitalism' does not appear in the encyclical. However, it is very clear that, for him, the dramatic ecological problems of our time result from the mechanisms of today's global economy—a system he describes as "a structurally perverse system of commercial and property relations" (Section 52 of the document).

What, for Bergoglio, are these "structurally perverse" characteristics? First, a system dominated by "the narrow interests of businesses" and "a questionable economic rationality;" which is to say, an instrumental rationality whose sole objective is to maximise profits. Consequently, "the principle of profit maximisation, which tends to isolate itself from all other considerations, is a conceptual distortion of economics: if production increases, it matters little whether it is achieved at the expense of future resources or environmental well-being" (Bergoglio 2015, 195). This distortion, this ethical and social perversity, is no longer peculiar to one country but rather to "a global system in which speculation and the pursuit of financial income prevail, ignoring any context or effects on human dignity and the environment" (year, page number). Thus, "environmental degradation and human and ethical degradation seem closely connected" (2015, 56).

The obsession with unlimited growth, consumerism, technocracy, the absolute dominance of finance, and the deification of the market are all hallmarks of this perverse system. In a destructive logic, everything is reduced to the market and the 'financial calculation of costs and benefits.' Yet, it is essential to understand that "the environment is one of those goods that market mechanisms are incapable of defending or promoting adequately" (2015, 190). The market cannot account for qualitative, ethical, social, human, or natural values—in other words, "values that go beyond any calculation" (2015, 36).

The 'absolute' power of speculative financial capital is an essential aspect of the system, as revealed by the recent banking crisis. The encyclical's commentary is demystifying: "Saving banks at all costs, making the people pay the price, without a firm decision to review and reform the entire system, reaffirms an absolute dominance of finance that has no

future and can only generate new crises after a long, costly, and apparent recovery. The 2007–2008 financial crisis was an opportunity to develop a new economy more attentive to ethical principles and supportive of new regulation of speculative financial activity and fictitious wealth. But there was no reaction that led to a rethinking of the obsolete criteria that continue to govern the world" (Bergoglio 2015, 189).

Ecosocialism: A Civilisation Project

If the root of the ecological crisis is capitalism, we need radical alternatives; solutions that address the problem at its source. This alternative is ecosocialism, a strategic proposal arising from the convergence of ecology and socialism. Ecosocialism offers a radical civilisational alternative for the future, grounded in the foundational arguments of the ecological movement, the socialist movement, and Marxist critique of political economy. It opposes what Marx called capitalist "destructive progress" with an economic policy based on non-monetary and extra-economic criteria: social needs and ecological balance.

Ecosocialism differs from traditional socialism because it includes a critique of Soviet — and other — historical experiences that, from an environmental standpoint, did not represent an alternative to the Western model; instead, they sought to emulate the productive model of Western capitalism. This experience highlights the problems arising from a collectivist appropriation of the capitalist productive apparatus. It is true that, during the early years following the October Revolution, an ecological current emerged, and certain environmental protection measures were implemented by Soviet authorities. However, with the process of Stalinist bureaucratisation, productivist tendencies in both industry and agriculture were imposed through totalitarian methods, while ecologists were marginalised or eliminated. The Chernobyl disaster is an extreme example of the disastrous consequences of reproducing Western productive technologies. This indicates that a change in property forms, without a subsequent democratic management and reorganisation of the productive system, can only lead to a further dead end.

Ecosocialism also radically diverges from the 'socialism' of social-democratic governments and parties, which refuse to confront the capitalist system, accommodate neoliberal policies, and lack a genuine commitment to ecology.

Ultimately, ecosocialism revisits some of socialism's fundamental ideas, as developed by Marx, Friedrich Engels, Vladimir Lenin, Rosa Luxemburg,

Leon Trotsky, Antonio Gramsci, José Carlos Mariátegui, Che Guevara, and many others, but it places the relationship with nature and the environment at the centre of its socialist project. It thus represents a new way of thinking about socialism. At the same time, it critiques non-socialist ecology, which assumes that an alternative development model can exist within the capitalist market. From the ecosocialist perspective, this is an illusion, given capitalism's inherent dynamic of expansion and unlimited growth, which inevitably clashes with ecological balance. Capitalism without growth, without fierce competition between companies and nations for markets, is impossible and unimaginable. Ecosocialism, therefore, offers a critique of market environmentalism propagated by most green parties.

In summary, ecosocialism is a convergence—a dialectical unity—between the fundamental ideas of socialism, including the collectivisation of the means of production and democratic planning, and the core principles of ecology. It is a socialism that takes ecology seriously, where the defence of our Common Home, the protection of Mother Earth, is not just one chapter among many in a programme but the heart of the socialist project. It is, therefore, a different way of thinking about socialism, distinct from the version that predominated in the socialism of the past century, which was primarily concerned with developing productive forces, producing ever more on and on, producing more goods than capitalists, producing more cars than capitalists. That was the project of much of the dominant socialism in the twentieth century, whether in its Soviet or social-democratic form.

Ecosocialism rests on a belief that was already Marx's: the predominance, in a classless society liberated from capitalist alienation, of 'being' over 'having.' This means prioritising free time for personal fulfilment through cultural, recreational, scientific, erotic, artistic, and political activities, rather than the endless desire for material possessions. Compulsive acquisition is induced by the commodity fetishism inherent to the capitalist system; by the dominant ideology, and by advertising, while nothing proves that this is part of an 'eternal human nature,' as reactionary rhetoric would have us believe.

This does not mean that conflicts will not arise, especially during the transition process, between the demands of environmental protection and social needs, between ecological imperatives and the need to develop basic infrastructure, especially in developing countries, and between popular consumption habits and resource scarcity. A classless society is not a society without inevitable contradictions and conflicts. It will be up to democratic planning, within an ecosocialist framework freed from the

imperatives of capital and profit, to resolve these issues through pluralistic and open discussion, leading to decision-making by society itself. This grassroots and participatory democracy is the only way to avoid—not errors, but to allow society as a collective to correct its own mistakes.

Is this utopian? In its etymological sense—something that exists nowhere—certainly. But wouldn't utopias, that is, visions of an alternative future and images of a different society, be a necessary characteristic of any movement aiming to challenge the established order? The socialist and ecological utopia is merely an objective possibility, not the inevitable outcome of capitalism's contradictions or the 'iron laws of history.' The future cannot be predicted except in conditional terms: in the absence of an ecosocialist transformation, of a radical shift in the civilisational paradigm, the logic of capitalism will lead the planet to dramatic ecological catastrophes, threatening the health and lives of billions of human beings—perhaps even the survival of our species.

We know that capitalism will not disappear as a victim of its contradictions, contrary to the claims of some supposed Marxists. A great Marxist thinker from the early twentieth century, Walter Benjamin, stated that if there is a lesson to learn, it is that capitalism will not die a natural death—it will have to be brought to an end. We need a perspective of struggle against capitalism, a paradigm of alternative civilisation, and a strategy of convergence between social and environmental struggles; as such, planting the seeds of this new society, future, and ecosocialism. The ecosocialist alternative ultimately entails a revolutionary transformation of society. But what does revolution mean?

In an intriguing passage from his notes for the *Theses on the Concept of History* (1940), Benjamin offers a new definition of revolution that seems very relevant today: "Marx said that revolutions are the locomotives of world history. But perhaps things are different. It may be that revolutions are the act by which humanity travelling in the train applies the emergency brake" (Benjamin, 1977, 1232).[6] Translated into the ecological terms of the twenty-first century: the train of capitalist civilisation, on which we are all passengers, is accelerating ever more towards an abyss: ecological catastrophe and climate change. We must pull the emergency brakes of revolution before it is too late.

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MENE, MENE,
TEKEL UPHARSIN
Apocalypse, Anthropocene, Capitalism,
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6 Translator's translation.

tre National de la Recherche Scientifique in Paris. Amongst numerous books published in thirty languages (*Marxism and Liberation Theology* [2008] and *Ecosocialism: A Radical Alternative to the Capitalist Catastrophe* [2015]) his latest books, *The Revolution is the Emergency Break: Essays on Walter Benjamin* (2024) and *Revolutionary Affinities: Toward a Marxist Anarchist Solidarity* (2023) co-authored with Olivier Besancenot, cement Löwy's eminent position as one of the long-time leading scholars of Latin-American critical Marxism. Additionally, he was also one of the organizers of the first International Ecosocialist Meeting in Paris in 2007.

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(Sub)Terranean Intimacies: Indeterminacies of Flesh and Crystal in *The Crystal World*

Abstract: This article argues that J. G. Ballard's 1966 novel, *The Crystal World*, with its crystalline apocalypse, unsettles binaries such as life/death and organic/inorganic. It traces similarities in Ballard's work to Joseph Conrad's novella, *Heart of Darkness*, while making the case that both Ballard and Conrad can be situated in a lineage of subterranean extraction and imperial mastery. Building on Kathryn Yusoff's work on geology, extraction, and the racialization of black and brown bodies, this study shows how both extractive processes in both Conrad and Ballard trouble the divisions between organic and inorganic. The crystalline apocalypse and the accompanying overabundance of crystals in Ballard's novel disrupt subterranean networks of value extraction. Emphasizing how Ballard's crystalline transformation petrifies bodies, this article suggests that crystallization in *The Crystal World* is an opportunity to rethink the categories of organic/inorganic and life/death. From this analytical perspective, *The Crystal World* offers opportunities to reimagine value networks under capitalism.

Key Words: Ballard, Conrad, organic, inorganic, capitalist extraction, Anthropocene, crystallisation

Subterranean Networks and the Anthropocene

Scholars have identified the current geological epoch as the age of the Anthropocene. This definition takes into account geological and ecological changes brought about by human activity (Crutzen 2006, 16). Similarly,

both the scale and temporality of changes brought about by humans have led scholars to conclude that the Anthropocene is a specific geological epoch different from the Holocene (Lewis and Maslin 2015, 171). One human activity that brings lasting changes to both the surface and interior of the earth is anthroturbation, which can range from surface level changes (such as in landscaping) to deeper level changes (as in petroleum extraction). Since no other species has penetrated the earth as much as humans making long lasting subterranean changes, anthroturbation, or burrowing into the earth, is an integral part of the Anthropocene (Zalasiewicz, Waters, and Williams 2014, 7). Kathryn Yusoff (2018) has criticized the Anthropocene by highlighting the links between geology, extractivism, materiality, and value. She draws attention to histories of racialization embedded in the Anthropocene, often erased from its universal narrative that foregrounds the figure of the human (2018, 2). Geology, according to her, produces both subjects and materials. The material world is divided into the human and inhuman, "and thus as inert or agentic matter" which makes possible "a set of extractions, from particular subject positions, from black and brown bodies" (4). In this article, I study the history of extraction with respect to two writers, Joseph Conrad and J. G. Ballard. While a comparison between Conrad and Ballard might seem counterintuitive, considering how they wrote in different contexts, I suggest that the representation of subterranean networks in both these writers merit a closer look. The focus of this paper is a subterranean "carbon imaginary" (Tondre 2020) and how a lineage of this subterranean network could be traced from Conrad's work to Ballard's. Carbon and its various forms, such as ivory and crystals, constitute elements of this subterranean carbon imaginary. As opposed to the nineteenth century drive to extract and conquer elements of the subterranean carbon imaginary, in this paper, I explore how Ballard's novel, *The Crystal World* (1966) (hereafter *TCW*) unsettles the rhetoric of racial capitalism and imperial mastery by destabilizing the organic/inorganic, life/nonlife boundary. I study these binaries with respect to crystals and leprosy in *TCW,* while proposing that the crystalline apocalypse in Ballard creates conditions of ontological indeterminacy.

The case for Conrad's influence over Ballard can be seen from how the latter has engaged with texts from Conrad. In his short story "A Question of Re-Entry," which was published in 1963, Ballard takes the foundational elements of Conrad's *Heart of Darkness* and fashions them into a story about searching for the remains of a space shuttle in the Amazonian jungle. The sci-fi revision of *Heart of Darkness* opens with a boat moving upstream, with specific attention to the landscape, which is described in

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terms of a jungle that is "endless", marked by "darkness" (Ballard 2009a, 435). In addition, deep inside the Amazonian jungles, Ballard presents a Kurtzian figure, named Ryker, a white man who has vanished inside the jungles. Taking up residence with the Indigenous people of the region, Ryker himself has become "almost indistinguishable from the Indians" (439). The river in the short story serves as a link to civilization. Ballard writes how "the long voyage up-river" was like "a last tenuous thread" that linked the protagonist with "the order and sanity of civilization" (441). The foundational motif of journeying up a river and consequently journeying in time, which animates *Heart of Darkness* also appears in Ballard's other work, namely the novel *TCW*. Jeanette Baxter, in her Surrealist study on J. G. Ballard, draws attention to how *TCW* invokes *Heart of Darkness*. She writes how the colonial periphery of Cameroonian Port Matarre in *TCW* is connected to the imperial centre in England, noting how "The tired, inert waters of London, the British Imperial Centre have leaked somehow into this African landscape." Baxter further adds how the landscape of *TCW* evokes *Heart of Darkness* through "stylistic echoes and allusions" (Baxter 2009, 40).

Both *Heart or Darkness* and *TCW* present a tropical world that is prehistoric. The two novels describe their settings as places of darkness while being animated by a sense of wonder. In a letter to Sanders, the English leprosy specialist in *TCW*, Suzanne Clair, his colleague in a Cameroonian leprosarium, describes the crystal forest "as the most beautiful" adding that she cannot find words to describe "the wonder" she feels when she looks at this sight (Ballard 1966, 12). Marlow, Conrad's narrator, speaks about "the general sense of vague and oppressive wonder" (Conrad 1988, 17). Both texts also render their settings as prehistoric through the images of darkness and animals. *TCW* opens with Sanders being impressed by the darkness of the river (Ballard 1966, 3). The first section of the novel titled 'The Dark River' emphasizes darkness through references to "the dark forest," (12) Sanders' "dark figure," (17) and the darkness of Port Matarre itself (19). Speaking about how the setting in *Heart of Darkness* is "one of the dark places on earth" (Conrad 1988, 9), Marlow describes how it "has ceased to be a blank space of delightful mystery" and had become "a place of darkness" (12). These places of darkness are further linked by rivers that run through them, "deadly – like a snake" in Conrad (14) and "the black surface of the river below spangled like the back of a sleeping snake" in Ballard (1966, 39). Conrad equates travelling up the river as a journey into prehistoric times: "Going up that river was like travelling back to the earliest beginnings of the world [...] On silver sandbanks hippos and alligators sunned themselves side by side" (1988, 35). Ballard, similarly, creates

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a vision of "jeweled crocodiles" that "glitter like heraldic salamanders on the banks of the crystalline rivers" (1966, 203).

In addition to the similarties in the setting, both texts foreground transitional states, with a focus on binaries such as organic/inorganic, life/nonlife and human/inhuman. The tension between organic/inorganic and life/nonlife is revealed through the commodities of ivory in *Heart of Darkness* and gemstones in *TCW*. These commodities, extracted from colonised territories, give rise to networks of value. In *Heart of Darkness,* ivory trade represents the networks of extraction. *TCW* presents extractive networks through both organic and inorganic entities. Set in a colony for leprosy sufferers in Cameroon, which also has mines for precious stones nearby, the novel brings together legacies of tropical medicine and extractivism. Edward Said, while drawing attention to "Kurtz's ivory-trading empire" at the centre of Conrad's novella, also points out how "Kurtz's great looting adventure" and "Marlow's journey up the river" are connected by a shared theme: "Europeans performing acts of imperial mastery and will in (or about) Africa" (1994, 23). A part of this mastery is the attempt to mitigate the darkness by the *mission civilisatrice.* As Said explains further, despite references to the *mission civilisatrice* in *Heart of Darkness,* Kurtz and Marlow understand the "darkness" has "an autonomy of its own, and can reinvade and reclaim what imperialism had taken for *its* own" (30). Said further qualifies this darkness when he adds that Kurtz and Marlow are unable to recognize the fact that the "non-European 'darkness' was in fact a non-European world *resisting* imperialism" (30). *TCW* with its imperial subtext, plays on the contrast between 'light' and 'dark,' with Port Matarre being characterised in terms of a similar division (Ballard 1966, 36).

While *Heart of Darkness* functions around extractions' narratives in the imperial periphery, *TCW* utilises what Roger Luckhurst refers to as "an imperial subtext" (Luckhurst 1997, 45). The *mission civilisatrice* makes its presence felt through the figure of Dr. Sanders and the leprosarium staffed by Max and Suzanne Clair. However, instead of tropical medicine or Christianity which is expected to dispel the proverbial 'darkness,' *TCW* turns to an apocalyptic phenomenon of crystallization, which renders bodies full of light. As Suzanne writes in her letter to Sanders, "[t]he light touches everything with diamonds and sapphires" (Ballard 1966, 12). In contrast to operations of mastery, this phenomenon decentres anthropocentrism, offering the Cameroonian people an opportunity to take control of their own destiny, with crystallization being offered as a cure for leprosy, as opposed to western medicine brought by figures from the imperial centre. As a result of the crystalline transformations, the bodies of Cameroonian people are transformed into precious stones, rendering them into

inorganic commodities. Drawing from Kathryn Yusoff's work (2018; 2020) on extractivism and racial hierarchies of value, this paper demonstrates how speculative narrative in *TCW* disrupt colonial networks of value creation. This disruption is made possible by a subversion of the trope of tropical overabundance and by the creation of a liminal state of being between the organic and inorganic.

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Subterranean Resource Networks: From Conrad to Ballard

In addition to *Heart of Darkness,* which revolves around ivory trade, Conrad's work is organized around the question of resource extraction. As Micheal Tondre notes, the "raw materials of empire" constitute an organizing block for Conrad's major work, exemplified by how his fiction centers "a distinct mineral resource" such as ivory in *Heart of Darkness,* guano in *Lord Jim* and silver in *Nostromo* (Tondre 2020, 71). These fictions, Tondre writes, "recoil against the excesses or modern resource removal" (57). If Conrad's fictions can be read as critiques against excessive resource removal, Ballard in *TCW* presents an opportunity to study a crisis in imperial resource networks provoked as a result of an excess.

TCW (1966) tells the story of an English physician, Dr. Edward Sanders, who arrives in Port Matarre in Cameroon, looking for two of his colleagues, Max and Suzanne Clair, who work in a leprosarium. As Sanders embarks on his quest, he encounters an apocalyptic phenomenon in the jungle which crystallizes everything in its path. This phenomenon transforms everything into crystal, including living bodies. In this way, *TCW* showcases excess which brings the subterranean to the surface. In this process of crystallization, the novel blurs the distinctions subterranean/ surface, man/nature and organic/inorganic. Readings of Conrad's work also highlight similar themes. For instance, Aaron Clayton, in his ecocritical reading of Conrad's *Victory,* notes how Conrad "erodes the distinction between man and nature by establishing conditions for the possibility of a radically different ontology" (Clayton 2010, 121). In this article, I argue that in *TCW,* Ballard undertakes a similar project through his crystalline apocalypse; he creates conditions for a new ontology that belies distinctions between organic/inorganic and life/nonlife.

The focus of this article is a subterranean "carbon imaginary" (Tondre 2020) and how a lineage of this subterranean network could be traced from Conrad's work to Ballard's. Conrad's work presents the problem of excessive extraction in/from the imperial periphery. Cannon Schmitt, in

his study of *Heart of Darkness* comments on how the figure of Kurtz in the novella is an "all-consuming mouth" with respect to ivory (Schmitt 2012, 25). *Heart of Darkness* is driven by the quest for ivory, called "fossil ivory" since explorers dig it out from the earth (Conrad 1988, 49). On the one hand, the novel focuses on Kurtz's drive to extract buried ivory. On the other hand, as Elizabeth Miller has shown, Kurtz himself becomes a person to be extracted by Marlow (2021, 135), with the novel signaling that Kurtz has transformed into ivory. For instance, Kurtz's face is described as "an ivory face" (Conrad 1988, 68). This transformation complicates "the living/nonliving binary in reference to colonial commodities" (Miller 2021, 135). Ivory, which was once part of a living elephant, becomes a lifeless commodity in extractive networks for resources that thrived under colonialism. Kurtz and his organic flesh are transformed into the same lifeless ivory, placing them in the realm of the inorganic.

The lineage of imperial extraction that propels towards anthroturbation, and eventually the extractionist, unequal histories of the Anthropocene connect Conrad and Ballard. Leonard Orr notes that it is common to associate Ballard's fictional work with *Heart of Darkness* because of two factors: the desolate landscapes in Ballard's work and the isolation of the protagonists. However, the difference, for Orr, between Conrad and Ballard comes in the way in which the characters react to catastrophe. Ballard's characters do not seek to flee from the catastrophe; instead, they submit and view the act of submission as a sort of freedom (Orr 2000, 480–481). Orr refers to Ballard's catastrophes as "utopian disasters" (493). While I concede that catastrophe in Ballard offers certain possibilities for the development of protagonists, I am hesitant to characterize *TCW* as utopian. Yes, Sanders goes back into the crystal forest to embrace crystallization, which could be read as a moment of growth, but such a reading does not take into account the stature of Cameroonian bodies embracing crystallization and their relationship to racialized logics of extraction. In this study, I focus on how Cameroonians leverage the crystallization to resist imperial acts of mastery, while showing how the excess of crystallization stresses imperial extraction networks. I follow observations that have been made regarding Ballard's catastrophic narratives. As Roger Luckhurst writes: "They take place *between catastrophes*, in the space after the initial catastrophe and the 'catastrophe' which follows: death" (Luckhurst 1997, 38). However, I show that in *TCW,* death is neither a catastrophe, nor an end point.

Diamond mines in *The Crystal World* and the crystalline transformations in the novel speak to the lasting effects of anthroturbation, colonial extractivism, and the transformational effects on the Cameroonians

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caught in the process. The life/nonlife tension in *Crystal World* is not just a problem of materiality, but it also points to the racial order of extraction, with Cameroonian bodies transforming into crystal. Matter divided into life and nonlife "pertains […] to the racial organization of life" with the "biopolitical category of nonbeing" established through "slaves being exchanged for and as gold" (Yusoff 2018, 5). The Cameroonians in *TCW* embody the subterranean, as their flesh is caught between life and nonlife. They embrace crystallization, willingly undertaking a process that transforms their flesh into precious gemstones. As opposed to the geological way of seeing, which emphasizes the verticality of territory (Braun 2000, 13) and focuses on the interior of the earth, in the world of the novel, such a penetrating gaze is rendered inutile. The crystalline transformations become superficial as opposed to being subterranean. Furthermore, the phenomenon described by Ballard creates a proliferation of subterranean minerals and crystals which renders them valueless in the marketplace. The crystalline transformations, thus, trouble divisions between organic/inorganic and life/nonlife while also impacting capitalist networks of value creation.

Cameroonian people in the novel leverage the apocalyptic phenomenon of crystallization to unsettle networks of capital that stretch from the colony to the imperial centre. In the novel, when the Cameroonians understand that they could leave things in the forest to be transformed into precious stones, they apply the same technique to manufacture diamonds. Captain Radek explains to Sanders that mines in Mont Royal did not produce gemstones. As the forest begins to vitrify, however, big diamonds appear in the market outside. As a result, the "share prices on the Paris Bourse climbed to fantastic heights" (Ballard 1966, 71). However, the diamonds and crystals produced by this phenomenon of crystallisation also have a tendency to dissolve. With an abundance of diamonds, emeralds, and sapphires produced in the forest, the market-oriented value networks are disrupted. Max Clair speaks about how "the natives are hanging around in the bush, hoping to reap themselves a harvest of diamonds" (Ballard 1966, 152). Furthermore, the 'natives,' Radek notes, have used crystallization to produce objects of art and jewellery that fuelled trade in the region (71). Not only do they use the phenomenon to their advantage, but the miners also place themselves in a wider network of capital that stretches beyond Cameroon. As Micheal Tondre observes regarding resource extraction in Conrad's fiction: "foreign extraction sites are tied to a transoceanic network of ships, trains, refinement facilities, banks" producing a "panoramic perspective" (Tondre 2020, 71). In *TCW,*

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readers are met with a global phenomenon that radiates from the imperial periphery.

However, as is the case with Kurtz in *Heart of Darkness,* who becomes ivory, the Cameroonians in the novel place themselves into the same networks for material transformations in an attempt to control their fate. Max Clair draws attention to this fact when he points out that the incurably sick, suffering from leprosy, left behind in the forest are being transformed by the forest. The Cameroonians in the narrative thus embrace the prospect of being rendered inhuman by the vitrifying forest. Sufferers of leprosy, particularly those who are incurable, are shown to wait outside the mission hospital run by Max and Suzanne Clair. Louise Peret, the French journalist in the narrative, wonders whether the Cameroonians waiting near the forest are human, while Sanders reassures her of their humanity (Ballard 1966, 158). Thus, *TCW* highlights the subterranean racial hierarchy of life, as Louise questions the humanity of coloured bodies. Attracted by the light from the crystal forest, the Cameroonians enter the forest willingly to be crystallised. The narrative characterizes this response to light as a response to "the possibilities of life itself" (160). The Cameroonians, however, decide to embrace the process of subterranean mineralization, in an inhuman embrace with the earth, in "a perilous tender of mineral amity" (Cohen 2015, 5). They choose a different possibility of life which, in part, contradictorily makes them commodities.

Louise's question about whether the diseased Cameroonians are, in fact, human brings to fore the racialized bias on which the notion of human has been constructed in the first place. The European subject, embodied/represented by Louise, is defined and placed in contrast with "fossil nature (indigeneity) and fossil energy (the enslaved)" (Yusoff 2020, 664). *TCW* presents a literal fossilization through vitrification. This crystallization brings into human dimension the subterranean process of extraction, and thereby transforms flesh into nonlife, the inhuman. Kathryn Yusoff writes about how the category of the inhuman functions as "the racialized understrata to the white surfaces of capital accumulation" (664). However, *TCW* with its abundance of crystals resists capital accumulation, while affording racialised bodies an opportunity to participate in processes that mineralise them, making them 'living dead.' The designation of 'living dead' associated with the affliction of leprosy adds a further layer to the struggles of these bodies, which through their mineralized transformations are caught between the realms of life and nonlife. Ballard's novel therefore brings into forefront a transitional state of being.

Crystals, Leprosy and Mastery

While *Heart of Darkness* blurs the lines between life and non-life through the commodity of ivory and the figure of Kurtz, *TCW* approaches similar themes through crystals and the disease of leprosy. Several studies have highlighted the role of crystals in the narrative and how they animate the organic/inorganic boundary. For instance, Aidan Tynan, in his study of *TCW* influenced by French biophilosophy, writes about how Ballard's ecological apocalypse of crystallization erodes distinctions between nature and culture (2018, 400). For Moritz Ingwersen, the crystalline form blurs "the dialectic between life and nonlife" (2016, 75). I follow in the wake of these studies while I track the organic/inorganic as well as the life/nonlife binaries with respect to crystals; however, I also connect these binaries to leprosy and the question of a *mission civilisatrice*. I further suggest that Cameroonians turn away from the colonial impulse to 'save' the local population; furthermore, in choosing to embrace the crystalline apocalypse, they have an opportunity to disrupt both imperial value networks and racial capitalism.

The traffic between organic and inorganic is reflected in the early discourse around crystallography. Seventeenth- and eighteenth-century debates about the nature of matter were reflected in the literature about artificially produced crystals (Burke 1966, 10). While crystals and stones are now located in the realm of the inorganic, seventeenth century theories placed crystals in the realm of the organic. An example can be found in the work of Nehemiah Grew, who in 1672, proposed that:

> all plants were composed of four differently shaped crystals of mineral salts; these entered through pores in the roots and combined to form circles or lines which became extended through the additions of ever more such ultramicroscopic crystals in regular patterns (Ritterbush 1968, 8).

While these theories were criticised in the in the eighteenth century, the history of crystals being grown in solutions and being exhibited as "stone plants" (14) further attests to the indeterminacy of categories such as 'organic' and 'inorganic' and how crystals occupied a medial position. Crystals were part of the debate surrounding "organic form," which originated as "a literary esthetic principle but […] became a primary guiding idea in biology" (26), with symmetry becoming an indicator of transcendence. The principle of symmetry was also used to distinguish between the living and the non-living, as evidenced by Louis Pasteur's experiments on tartaric

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acid (54). Crystals can 'grow' as shown by them being grown in solutions in laboratories, but whether 'growth' is to be taken as an index of life is a question that remains. A textbook on crystals characterises the growth of crystals as something "characteristic of 'dead' matter: they represent the most primitive kind of internal organization, a monotonous repetition of the same pattern unit in all directions in space" (Bunn 1964, 281).

Ballard further builds on this ambiguity between living and dead matter when at the beginning of the narrative, Sanders compares the apocalyptic crystallization to the tobacco mosaic virus. Sanders is informed that there is "a new kind of plant disease beginning in the forest near Mont Royal" and he immediately responds, "[a] virus disease, like tobacco mosaic?" (Ballard 1966, 24). The choice of a viral disease is significant, since a virus, similar to crystalline growth in the text, reproduces rapidly, and in that process jeopardizes its host. The tobacco mosaic virus has "long rod-shaped particles" packed together "in crystalline array" (Bunn 1964, 279). Whether viruses are living or non-living has been debated, particularly with reference to the characteristic of 'growth.' For example, "[i]f capacity for self-reproduction is regarded as the criterion for life, then viruses can be said to be living, and virus crystals can fairly be described as living crystals" (279). Through references to a viral infection being the source of the crystalline apocalypse, Ballard adds another layer to the operation of organic/inorganic, life/non-life binaries in the narrative.

In addition to the viral in the narrative, the same tension is also reflected in Ballard's rendering of bodies ridden with leprosy which have crystallised. In medieval times, sufferers of leprosy occupied a transitional space between the living and the dead. In addition to this tension between organic/inorganic and living/non-living, *Crystal World* also highlights the links between Christianity and leprosy, which have a long history. As Meghan Vaughn explains:

> In medieval Europe lepers occupied a strange ground as the 'living dead[.]'[...] In early medieval France a priest performed the ritual of separation in which the leper stood in a grave whilst the priest threw three spadefuls of earth on her or his head, announcing that they were 'dead to the world', but would be 'reborn in God' (1992, 79).

Those afflicted by leprosy are forced into a different space, separate from the everyday world. The church propagated the idea that leprosy was a gift from God and that people suffering from leprosy were "specially chosen by God for salvation" (Brody 1974, 61). The notion of saving people is yet another link that connects *TCW* and *Heart of Darkness*.

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Notions of 'progress' and the *mission civilisatrice* connect *Heart of Darkness* and *TCW*. In *Heart of Darkness,* Kurtz is described as "an emissary of pity, science and progress" (Conrad 1988, 28). As Said argues in *Culture and Imperialism,* emissaries from the imperial center are tasked with dispelling 'darkness' from the periphery. Mitigation of diseases, the discipline of tropical medicine, in particular, was a part of this imperial mandate. Tropical medicine texts on leprosy treat it as a tropical disease that is attributed to a lack of civilizational progress in non-European societies. For instance, a 1946 text claims that countries from which leprosy has disappeared belong to the temperate zones of Europe (Rogers and Muir 1946, 9). Tropical countries, inhabited by people "in a low stage of civilization," have a "hot damp climate" which, it was widely believed, created conditions for leprosy transmission (11). The introduction of 'civilization' was one motivation for colonial rule in tropical regions. Imperial tropical medicine in the colonies during the period of 1900–1950 revolved around two impulses. The first was the mission to spread Christianity and introduce "modern ('scientific') rationality" and the second was the mandate to consolidate colonial rule (Worboys 2000, 208). The debate about saving bodies and saving souls recurs in this context. Biblical associations of leprosy made the disease significant for Christians and for missionary work since "the perceived risks of caring for lepers offered opportunities to show dedication to the cause, if not martyrdom" (Worboys 2000, 214). Sanders fits the mould of the white doctor in Africa who is "an enduring hero-figure of Western culture," (Vaughan 1992, 155) whose heroism is produced via what has been referred to as "jungle doctor memoirs" which were published during 1950s and 60s by British and American Doctors (156). Sanders suspects that "his reasons for serving at the leper hospital were not altogether humanitarian, and that he might be more attracted by the idea of leprosy" (Ballard 1966, 13). Tropical medicine and Christianity represent two facets of the colonial impulse to "save" Cameroonians and bring them into "progress." Sanders, Max and Suzanne Clair represent institutionalized tropical medicine, while Father Balthus represents Christianity. The bejewelled cross from Father Balthus, a Swiss priest who manages the church in Mont Royal, reverses crystallization. The second chapter presents Father Balthus holding "a large native carving of a crucifix," and "brandishing it like a sword over his head" (Ballard 1966, 33).

Human drive for mastery is evident in the choice of leprosy as a disease in the text. To treat leprosy, sufferers were often isolated and placed in leprosaria. In this way, leprosy creates a "colony within a colony" (Ballard 1966, 79) where the sufferers live in an indeterminate space in the hopes of being "ceremoniously released as 'cleansed'" at the end of their

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stay (Vaughan 1992, 84). This indeterminate status of leprosy sufferers appears in *TCW* as well. While Sanders is on the steamer, no one wishes to share a cabin with him since he works in a leprosarium. Remarking on the conduct of their fellow passengers, Ventress says that those people have failed to realize that outside Sanders' leper colony, "there is merely another larger one" (Ballard 1966, 9). In addition to leprosy, the invasive crystallization also encompasses the inhabitants of Mont Royal, thus creating another colony.

However, instead of being saved by western medicine or Christianity, the inhabitants of the crystalline forest choose to embrace the apocalyptic phenomenon of crystallisation that petrifies both organic and inorganic matter. As Sanders looks at carvings of teak and ivory made from materials scavenged from refuse heaps of the mines in Mont Royal, he notices how "the sculptors had abandoned all pretense to Christian imagery and produced squatting idols with pendulous abdomens and grimacing faces" (Ballard 1966, 31). Sidestepping the Christian association between leprosy and living death, inhabitants of Cameroon choose to embrace a different state between life and death, one that transforms them into crystal. As opposed to the Christian rebirth, Cameroonians choose to be reborn as crystallised bodies by venturing into the forest, thus, again, troubling the divisions between organic and inorganic. Matter is caught between being flesh and crystal, as evidenced by a dead body in the river and a crocodile that is half crystal. Sanders finds a drowned man in the river, who has a bejewelled arm while the rest of his body remains flesh (53). He also comes across a crocodile caught in the middle of transformation; its eyes have changed into rubies; its snout is a collection of jewels (89). In *TCW,* the state of being crystallized is not static; transformations can be reversed with water and religious symbols such as crosses. Crystalline transformations help the body to merge into the surrounding landscape, whereas the scouring action of water strips the crystal away, exposing bodily tissue. Thus, Ballard's crystalline landscape is not frozen; instead, it moves between the organic and inorganic as well as life and non-life.

If ivory represents colonial commodities and materials extracted out of the earth in *Heart of Darkness,* then the diamond mines in Mont Royal serve the same function in *Crystal World*. However, the relationship between commodities and the earth from which they are extracted differs in both texts. Fossil ivory in *Heart of Darkness* is an inorganic material that is buried; it is a rare subterranean commodity. While mines and diamonds in *Crystal World* present a similar subterranean picture, their value is troubled by the proliferation and overabundance of crystals. With bodies transforming into valuable crystals, what is subterranean becomes

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superficial. This change unsettles the colonial modes of extraction which valued commodities over people in colonised regions such as Cameroon. As opposed to imperial mastery that Said refers to in connection with the *Heart of Darkness,* the narrative in *TCW* provides an opportunity to manipulate commodity and capital networks. This is evident in the beginning of the novel, when it is revealed that ten years ago, there was an attempt at a coup by 'rebels' who had taken control of the emerald and diamond mines in Mont Royal (Ballard 1966, 4). The narrative voice observes that "this isolated corner of the Cameroonian Republic was *still recovering* from an abortive coup" (4, emphasis added). This observation is followed by one about the presence of a French military mission to train the local troops. The aftermath of the coup, the seizure of the mine from the 'rebels' and the continued military presence from the imperial centre are now placed in contrast with the inhuman force of the crystalline apocalypse, which topples imperial power structures.

The Anthropocene, as the name signifies, puts the Anthropos in the driving seat. As explained before, in Conrad's fiction, the drive for imperial mastery and the drive for extraction are driven by figures from the imperial centre. Whether it be ivory or silver or crystals or diamonds, the drive for mastery is also a drive for control over a subterrain carbon imaginary. However, *TCW,* by bringing crystals on to the surface and through their excess, disrupts any fantasies of human control and mastery.

Life and Non-life: Petrification and the Transitional

Through a crystalline apocalypse that unsettles binaries such as life/non-life and organic/inorganic, Ballard moves towards a transitional ontology that is reflected in the ecological setting of *TCW*. Wetlands and marshes, where Ballard sets his apocalyptic phenomenon, are transitional spaces between land and water, with characteristics that belong to both terrestrial and aquatic ecosystems (Coughanowr 1998, 5). Similarly, the setting of *TCW,* Port Matarre, is an estuary, a transitional zone with convergences of brackish water, fresh water, and land. The port is described as a purgatory, which in Catholicism is a transitional space where souls atone for their sins before ascending into heaven. The process of crystallization is also transitional, leaving its victims in a living-dead state, similar to the characterisations of sufferers of leprosy. Ventress remarks to Sanders that the inhabitants of Mont Royal will soon become something similar to viruses "with their crystalline structure, neither animate nor inanimate [...] Neither

living nor dead" (Ballard 1966, 101). With sufferers of leprosy being characterized as "the living-dead," and crystals which were once between the organic and inorganic, *TCW* provides an opportunity to rethink the divisions between life and nonlife.

In their study of the commercialization of Piedmontese bull semen, Annalisa Colombino and Paolo Giaccaria (2016) make a case for understanding death "as a spatial and relational process, as opposed to an *event* ending life" (1044). They draw attention to the current focus on how capitalism manipulates life, illustrated by the proliferation of terms such as biocapital, biovalue and bioeconomy. In contrast to this focus on life, the authors emphasize that death is not a caesura of life. They claim that "liveness and deadness are not two distinct realms, separated by a knowledgeable border—the event of death" (1046). The crystalline transformations in *TCW* address the same concerns, while foregrounding the question of value. As it can be seen from the remark Ventress makes to Sanders about viruses, transformed organic and inorganic bodies trapped in the crystalline re-worlding exist between realms of life and death. Even though they have been transformed into crystal, the effects of the transformation can be reversed with water or with religious iconography. The transitional existence of various bodies is further signalled by Ballard's descriptions and similes that capture the extent of transformation.

In "The Illuminated Man" (1964), Ballard's short story which explores the phenomenon of crystallisation, when the narrator sees crystallized trees for the first time, he highlights how those trees are alive, yet embedded in a crystal sheath. Each tree "was still alive, its leaves and boughs filled with sap, and yet at the same time each was encased in a mass of crystalline tissue" (Ballard 2009, 610). Tissue, the organic material of life, has become inorganic and crystalline, but is still nevertheless alive. The indeterminacy of liveliness and death is also reflected in the similes Ballard uses to describe objects that are transformed. For instance, a helicopter, inorganic and not alive, is described as a stricken animal post-crystallization. The windshield of a police car is described as blossoming into "a thousand fleur-de-lis crystals;" rocks loom like "huge marine plants" (Ballard 2009b, 615). In *TCW,* the first transformed dead body that Sanders sees is described as "a jeweled gauntlet," with "the coronation armour of a Spanish conquistador" (Ballard 1966, 53). Post-transformation, inorganic entities are compared to organic entities and vice versa. In this way, these transformations trouble the categories of liveness and deadness. A windshield can blossom into flowers, while living tissue can become inorganic armour.

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Ballard's explanation for the phenomenon centres upon time. He writes that "as a super-saturated solution will discharge itself into a crystalline mass," the super-saturation of matter results in time leaking away with molecules producing spatial replicas (Ballard 1966, 96). As the phenomenon produces petrified crystalline beings, death becomes not an event, but a spatial process. It is not the void of nothingness, a barrier into which things are condemned to disappear. The word "spectral" appears frequently as an adjective in *TCW*: spectral crown, spectral brightness, spectral gallery, spectral gloom, spectral garden and spectral trees. The mining town of Mont Royal is described as a necropolis. *TCW* is thus a text of haunting, where the past is not really past, and the present becomes an eternal present once petrification happens. The sufferers of leprosy seek to escape the reality of the disease by going into the forest. However, while crystallization erases disease, it also immortalizes any disfigurements of the body. The crystals are not entirely dead or inorganic since the process can be reversed, with either water or a crucifix. The hauntings and the transformational processes in *TCW* speak to an ontological indeterminacy. This indeterminacy creates a situation wherein "the dying is within the living within the dying" (Barad 2017, 112). Through its phenomenon of crystallization, *TCW* illustrates a larger debate about what it means to be organic/inorganic or alive/dead, and consequently what it means to occupy transitional spaces between these binaries.

Conclusion: Value and Speculation

Both *Heart of Darkness* and *TCW* engage with the paradigms of extraction and tension between organic/inorganic. Both texts show how specific commodities, such as fossil ivory and diamonds, circulate in extractive networks. Like *TCW,* which transforms black bodies into crystal, thus rendering them as objects meant for further extraction, *Heart of Darkness* also conceives of black bodies as extractive material, "reminding us that all colonial commodities, whether human or mineral, must first be extracted from the web of life [...]" (Miller 2021, 133). In Conrad's narrative, ivory, which was once part of an organic body, is still valuable, tying the novel "to the buried treasure plot at the heart of the adventure genre, and to the dynamics of extractive exhaustion that drive that plot" (134). *TCW,* through its speculative narrative has a different relationship to subterranean "treasures" and their value. The trope of tropical overabundance is pushed to such an extreme in the novel that materials once considered to be precious become devoid of any value.

TCW builds on the trope of tropical overabundance and can be read as an adventure narrative about a doctor who ventures into the 'exotic' tropics. The narrative has several parallels with "the jungle doctor memoirs" which appear in Megan Vaughan's (1992) landmark study on African illness. Battle with the African wilderness is a frequent motif in these narratives, often used as a trope to situate the inhabitants of Africa in prehistoric times. *TCW* relies on these tropes, which can also be found in *Heart of Darkness*. One of the characters describes the landscape in the novel as one "without time" (Ballard 1966, 10). Similarly, one finds descriptions of "primeval mud" (Conrad 1988, 29) and "primeval forest" (29) in *Heart of Darkness*. The inhabitants of the Congo belong to "the beginnings of time" (42) with the vegetation signalling the prehistoric nature of landscape. The vegetation is a "great wall" that is "exuberant" and is "a rioting invasion," "a rolling wave" (32). Furthermore, vegetation represents a threat to the existence of man since it is portrayed as something "ready to [...] sweep every little man of us out of his little existence" (32). Similarly, Matarre forests in *TCW* are landscapes without time (Ballard 1966, 11). Paralleing descriptions in *Heart of Darkness,* the image of the wave appears in Ballard's novel as well: "The dark tiers of the forest canopy rose high into the air like an immense wave ready to fall across the empty town" (23). The novel presents the spectacle of a tropical forest threatening to swallow everything it comes across. Sanders is the doctor/adventure hero who must brave the vagaries of the 'tropical' crystal forest; however, there is no treasure waiting as a reward at the end of this journey. On the contrary, the narrative of *TCW*, leverages tropes associated with tropical regions of the world to unsettle the narrative of finding treasure in 'exotic' locales.

TCW builds on tropes associated with tropical worldmaking which can, in turn, be connected to the question of value. Conceived as both 'conceptual' and 'cartographic' spaces, the term tropical "denotes a particular kind of experience [...] which may or may not be tied very specifically to a particular geographical zone or location" (Driver 2004, 2). This experience, which constitutes tropicality, was "the experience of northern whites moving into an alien world—alien in climate, vegetation, people and disease" (Arnold 1996, 143). To convey the features of such an alien world, writers relied on tropes. The main tropes associated with tropical nature were "fertility and superabundance" (Stepan 2001, 36). *TCW* capitalizes on this trope of superabundance to disrupt value networks.

TCW shows the links between speculative fiction and capital with the transformed diamonds skyrocketing price of shares in the Paris Bourse. In fact, investigation into the vitrifying phenomenon begins because of the stock prices. As unusually large gemstones were smuggled out, someone

was sent to investigate (Ballard 1966, 71). The text actively employs images of unchecked or "riotous" growth to explain the apocalyptic phenomenon which also produced giant diamonds. Crystallizing is described as a cancer, a disease caused by an uncontrolled division of cells, and as "an actual proliferation of the sub-atomic identity of all matter" (73). In this way, the trope of "tropical superabundance" becomes key in the novel. Pushed to its limits, the trope enters the realm of speculation.

Ballard leverages speculation, characterised as a "technology of imagination" (Bear 2020, 2, 8) to push back against the imagination of the tropics and tropes associated with the region. Furthermore, the fact that Cameroonians utilize crystallization to their advantage by creating diamonds and by employing it as a 'cure' speaks to how an apocalyptic phenomenon is leveraged to redress a process of accumulation that is unequal. As such, speculation and "the ability to accumulate capital from speculation is unevenly distributed in relation to intersecting inequalities of class, race, ethnicity and gender" (Bear 2020, 7). As Kathryn Yusoff has shown, life/nonlife distinction of matter maps on to racialization. Acts of extraction and imperial mastery privileges a distinct class of the human. While the mines in *TCW* have been seized back from the 'rebels,' extractionist operations come to a halt because of the spreading crystallization. Despite diamonds being produced as a result of the phenomenon, there is no capital to be accumulated, since they tend to dissolve. In this way, the apocalyptic crystallization disrupts the workings of speculation and capital accumulation, since it operates beyond the logic of human mastery. "Speculation [...] aims to reveal a hidden order of human and non-human powers that explain[s] the past, present and the future, making it possible to act" (Bear 2020, 8). Under Ballard's altered conditions of apocalypse, the only course of action is to embrace the apocalypse, reflected in how Cameroonians and Sanders react, and not speculate on future turns of capital.

Writing about the valences of the term 'speculative,' Steven Shaviro (2019) comments on the impossibility of disconnecting fictional speculation from financial and philosophical speculation, both of which is borne out in the narrative of *TCW*. Philosophically, Ballard's narrative posits an ontological indeterminacy while the proliferation of crystals speaks to financial speculation. While speculative finance relies on a temporal dimension by betting on futurity (Shaviro 2019), in *TCW*, the temporal dimension is affected as crystallization turns time into an eternal present. Not only does crystallization disrupt value creation through proliferation, but it also destroys the futurity with which speculative networks can function. Blurring boundaries between organic/inorganic, life/nonlife,

the novel brings to the forefront nonhuman forces that operate beyond registers of anthropocentric control.

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Apocalyptica
No 1 / 2024
Priscilla Jolly:
Indeterminacies of
Flesh and Crystal in
The Crystal World

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Vietnam's Revolutionary Trajectory: Between Leninist Aspirations and Apocalyptic Realities

Abstract: This article examines Vietnam's revolutionary trajectory as an attempt to follow Lenin's concept of the 'transitional period' to achieve a distinctive vision of the 'end of history.' Drawing on case studies of Phạm Tuân's 1980 space mission and Trần Đức Thiệp's 1992 nuclear accident, I analyze how Vietnam's revolutionary ambitions produced unexpected apocalyptic risks. For Vietnamese thinkers and statesmen, the apocalyptic threat was twofold: dependence on foreign powers at the superstructural level and technological backwardness at the infrastructural level. Yet, paradoxically, it was their commitment to avoiding these threats that created genuine apocalyptic risks through teleological thinking and ideological dogmatism. As they simultaneously attempted to maintain a communist political superstructure while accelerating technological development, a dangerous disconnect emerged between advanced theoretical knowledge and underdeveloped material infrastructure. This contradiction was vividly demonstrated in both Vietnam's celebrated space achievement and its lesser-known nuclear accident. Rather than treating Vietnamese revolutionary thought as derivative of European Marxism, I illuminate how revolutionaries transformed abstract ideology into lived experience, creating distinctive forms of temporal consciousness that evolved from dogmatic teleology toward a more nuanced engagement with historical contingency as Vietnam navigated between ideological aspirations and material realities.

Keywords: Vietnamese revolution, Leninist transitional period, apocalyptic risk, technological acceleration, ideological dogmatism

The 'End of History': A Rhetorical Frame

An attack on a Việt Cộng squad consisting of 11 soldiers occurred in February 1966 in Sông Bé, South Vietnam. Eight people were killed and three were severely wounded when the US Air Force carpet bombed said squad. The three injured survivors, Lê Hoàng Vũ, Nguyễn Chí, and Trần Viết Dũng, were unable to maintain a straight path due to malfunctioning contact devices. The trio decided to stop after trudging through an old-growth forest for days on end without any supplies of food or drink. As they lay in wait for death beneath a weathered tree, they penned their final words. The three young soldiers detailed their deaths and expressed their wish for a future when the war would be over, or at the very least, a very distant future, in a letter they wrote:

> Or if it is not until 50–100 years later that this letter reaches those who, perhaps the next generation, allow us to send our greetings to social-ism[1], allow us to express our wonderful joy at the happiness and peace that permeate our planet, that we become useful dust particles—and more, if possible, let us send our warmest greetings to people in distant stars, new friends between planets (Trần et al. 1966/2005, last paragraph).

The letter to a distant future demonstrates strong optimism in both socialist ideals and scientific progress, intertwining them into two visions of the utopian future. The first vision, the inevitable triumph of socialism, was the common belief among Vietnamese communist soldiers who devoted their lives to the war against the oppression of the US, a capitalist empire. The Việt Cộng's view towards the Second Indochina War during the 1960s and 1970s was shaped by the odd combination between Confucian patriotism, rooted in the feudalist era, and current Marxist-Leninist thoughts, whose goals were to defeat both the domestic feudalist social order and the international bourgeois structure and to actualize Lenin's vision of the end of history: communism.

In the second vision, the soldiers depicted an optimistic post-ideology future of scientific and technological advancement. Their imagination of sending greetings to 'people in distant stars' and forging friendships 'between planets' suggests a vision that human progress will extend far beyond Earth. This technocratic optimism had dual origins in Vietnam's history. First, the French brought Western concepts of social evolutionism to Vietnam during the colonial era, using developmental hierarchies to justify their rule by positioning themselves as 'civilized' administrators of

[1]   In this context, 'socialism' is used in a Marxist-Leninist sense; it is the first phase of communism. Lenin (1999) wrote: "[I]n the first phase of communist society (usually called socialism) 'bourgeois law' is not abolished in its entirety, but only in part, only in proportion to the economic revolution so far attained, i.e., only in respect of the means of production. 'Bourgeois law' recognizes them as the private property of individuals. Socialism converts them into common property. To that extent—and to that extent alone—'bourgeois law' disappears" (472). In this paper, I will use 'socialism' and 'communism' interchangeably, which all refer to this definition by Lenin.

a 'backward' territory. After the revolution, Vietnamese leaders inverted this logic, believing they could accelerate their development to match or even surpass capitalist societies through revolutionary will. Second, Vietnam adopted Lenin's approach to socialist development, which advocated industrializing and modernizing the economic infrastructure while establishing a 'dictatorship of the proletariat' at the political level. Lenin termed this the 'transitional period,' during which revolutionary states would harness technological advancement to build the material foundations for 'true socialism.' Vietnam's pursuit of scientific development thus followed this Leninist model of development, merging revolutionary politics with technological aspiration.

The three trajectories of thought that helped the three soldiers imagine the country's possible futures long after their deaths—local patriotic cosmologies, historical materialism, and social evolutionism—all envision a predetermined historical chronology of the future.

The end of history bears a complex intellectual genealogy that illuminates Vietnam's revolutionary vision. Much later, at the end of the 20th century, Fukuyama (1992) popularized this term to suggest that liberal democracy represented humanity's final political form, drawing on Hegel's concept of a universal history driven by the 'struggle for recognition.' As Fukuyama writes, this struggle represents humanity's fundamental desire to "be recognized as a being with a certain worth or dignity" (xvi), claiming that the American and French revolutions satisfied this longing through "universal and reciprocal recognition" (xviii). According to Fukuyama, universal history reveals a coherent, directional pattern in human development, driven by consciousness and freedom. This isn't merely chronicling events but uncovering principles that shape societies. He argues that the Cold War's end suggests history moves toward liberal democracy as humanity's final governmental form, representing the culmination of political evolution.

Yet, Marx's conception of universal history, which influenced Vietnam's revolutionaries, was more nuanced. As Duy Lap Nguyen (2020) argues, Marx's elaboration wasn't an attempt to provide an objective account of all human development. He acknowledged that we can only understand history from the vantage point of capitalism, a position unique because capitalism represents a singular rupture in human history that breaks all previous social patterns through its universal commodification of human relations. Nguyen demonstrates that Marx's critique reveals capitalism's internal contradictions not to predict its inevitable collapse, but to accelerate its self-transformation. By showing how capitalism's 'decoding' of traditional social relations creates both unprecedented alienation and

unprecedented possibilities for new forms of social organization, Marx aimed to intensify these contradictions rather than simply describe them. Most significantly, Nguyen suggests that the resolution of this conflict wouldn't result in a final stable state or end of history, but would break humanity out of both pre-capitalist forms of social coding and capitalist forms of abstract exchange; opening entirely new possibilities for social organization that we can barely imagine from our current position.

Lenin's adaptation of Marx, which Vietnamese revolutionaries later embraced, transformed this theoretical critique into a state-building program that positioned communism as the literal end of history — a dreamworld at the heart of revolutionary promise. While critics have dismissed this as 'vulgar Marxism,' I argue that Lenin's interpretation, though fraught with risks, was strategically necessary in the revolutionary contexts of Russia and Vietnam. The Vietnamese Communist Party deployed the concept at both rhetorical and theoretical levels — mobilizing the masses during decades of revolutionary struggle while simultaneously envisioning a postwar society that would transcend capitalist relations.

In this paper, I undertake neither a critique of Hegel, Marx, or Fukuyama's conceptions of the end of history, nor do I deploy this concept as a theoretical framework to analyze Việt Cộng politics from an external perspective. Instead, I pursue what Cherstich, Holbraad, and Tassi (2020) term an 'anthropology of revolution' — an ethnographic approach that examines revolutionary experience from within its own ontological premises. This methodology reframes revolution not merely as a political event to be explained through external theoretical models, but as a transformative process that generates distinct ways of being and knowing. By exploring how Vietnamese revolutionaries adapted and localized Marxism-Leninism within their cultural context, I illuminate how they navigated between universal revolutionary principles and particular historical conditions, creating what Cherstich, Holbraad, and Tassi might call a 'revolutionary situation' with its own emergent logic and temporality.

Through this lens, I investigate how Vietnamese revolutionaries articulated their own version of the end of history that served a dual purpose: justifying the moral and historical necessity of revolution while simultaneously addressing the apocalyptic question of what might happen should the revolution fail. This approach reveals how revolutionary thinking in Vietnam encompassed not only utopian visions of communism but also confronted the possibility of catastrophic outcomes, a productive tension that shaped scientific and technological pursuits throughout the revolutionary period. Rather than treating Vietnamese revolutionary thought as derivative of European Marxism, this anthropological perspective illumi-

nates how revolutionaries transformed abstract ideology into lived experience, creating new forms of political subjectivity and temporal consciousness specific to Vietnam's historical trajectory.

The concept of the end of history parallels apocalyptic narratives in Vietnamese revolutionary thought, though with distinctive local contours. For Vietnamese thinkers and statesmen, the apocalyptic threat was twofold: dependence on foreign powers at the superstructural level and technological backwardness at the infrastructural level. Yet paradoxically, it was their commitment to avoiding these threats that created genuine apocalyptic risks through teleological thinking and ideological dogmatism. As they simultaneously attempted to maintain a communist superstructure while accelerating technological development, a dangerous disconnect emerged between advanced theoretical knowledge and underdeveloped material infrastructure. This dogmatism, which I examine through two case studies—Phạm Tuân's 1980 space mission and Trần Đức Thiệp's 1992 nuclear accident—reveals how revolutionary aspirations divorced from material realities produced precisely the catastrophic scenarios that the revolution sought to prevent.

Vietnamese Specificity: Blending Marxism-Leninism and Local Cosmologies

I aim to explore the idea that permanent sets of revolutionary events, stages of development, and tendencies, inherent in the three intellectual trajectories I have mentioned, determine humanity's historical chronology. These intellectual trajectories, which view history as following an objective orientation, also presume the end of history. I want to examine the emergence and effects of this idea in reorganizing social, political, and onto-epistemological orders in Vietnam following the victory of the communist revolution in 1945. I agree with Spencer (2022) that the concept of progress has become entangled with the concept of endings. As the author suggests, after the Chernobyl disaster, the understanding of progress shifted from continuous advancement in human society through industrialization to a continuous state of ending, defined by its relationship to various forms of finitude. In the case of the Vietnamese revolution, however, the notion of the end of history has been there since the local revolutionaries adopted and modified Marxism-Leninism in the early twentieth century. The difference between the notions of the end after the Vietnamese revolution and after the Chernobyl disaster is that the former is optimistic and the latter is pessimistic.

Vietnam's philosophy of revolution was built based on the mutual obsession of the human actor in locating oneself in the course of history, found in both local views of history, the emerging Westernized *épistème*, and Marxism-Leninism.

One defined oneself in pre-colonial Confucian society as a descendant of Thần Nông and carried the same blood ancestry as the Hán people. This concept evolved from a political model seen as a family structure, grounded in an intellectual basis of Confucian orthodoxy and blood lineage. To establish historical continuity and shared lineage among the Vietnamese people, they drew on legends and myths such as the stories of Kinh Dương Vương and Hùng Vương. In the late nineteenth and early twentieth centuries, during the colonial era, the concept of fictive kinship continued to evolve. Vietnamese literati mixed modern theories such as social Darwinism, Marxism, and nationalism with a Confucian worldview. Promoting the idea of a united Vietnamese people based on common ancestry and blood ties, this mix functioned as a tool for anti-colonial and anti-feudal movements (Trần 2020). During her trip to Hanoi in May 1968, American left-wing social critic Susan Sontag (1969) wrote: "They [North Vietnamese] live exclusively in *the world of history*" (emphasis added). The term 'the world of history' was posed to point out how Vietnamese linked their identities not to personal lives but to the nation's historical chronology of fighting against invaders. A list of historical precedents backed up the people's belief in their inevitable victory: they had defeated the Chinese, Mongols, French, and Japanese before. In this context, people viewed the law of history as intrinsically moral, believing that the weak consistently prevailed. The patriots expected this ethical law to repeat in future history.

During the colonial era, beyond the patriotic sentiment of *mất nước* (losing one's country), Vietnamese intellectuals experienced profound anxiety about their perceived 'backwardness' compared to the West. This anxiety exemplifies what Chakrabarty describes as "the waiting room of history" where non-Western societies are positioned as "not yet" modern (2000, 8). This consciousness was shaped by multiple Western intellectual currents, with Marxism being one influential framework alongside French positivism, social Darwinism, and liberal developmentalism. French colonial ethnographers methodically classified Vietnamese culture as 'primitive,' creating what Chakrabarty calls a 'figure of lack' where "the 'Indian' was always a figure of lack," (32) a pattern replicated for Vietnamese subjects. Vietnamese intellectuals educated in French institutions internalized these classifications while simultaneously believing in Vietnam's capacity to achieve modernity through Westernization. Historical consciousness

underwent radical transformation. Rather than viewing Vietnamese history as merely cyclical defense against invasions, intellectuals reimagined it as a developmental narrative emphasizing economic growth, scientific understanding, and individual enlightenment. The Westernized intelligentsia—spanning political divides from Confucian reformers to Marxist revolutionaries—worked to align Vietnam's historical trajectory with what they perceived as universal modernity. This project involved extensive intellectual labor: Western-trained Vietnamese scholars translated scientific terminology from multiple European languages, while historians and anthropologists secularized Vietnam's origin myths to position them within universal human history. These intellectuals, whether liberal nationalists, socialist revolutionaries, or Confucian modernizers, collectively established modernization as Vietnam's historical imperative—though they fiercely debated which Western model offered the most promising path forward, disagreements that ultimately exploded into bloody ideological conflicts during the twentieth century.

Marxism-Leninism, popularized among Vietnamese revolutionaries in the 1930s and 1940s, provided the framework for envisioning what Lenin believed to be the last stage of human civilization. While the positivist human sciences brought to Vietnam during the colonial era revealed Vietnamese as belonging to a broader category of identity called homo sapiens, they also justified Western rules towards the Oriental Other. The "people-eating system" (*chế độ thực dân*) (Ho Tai 1992, 2), referring to French colonialism in Vietnam, through the lens of social Darwinism—a variant of social evolutionism—was seen as the result of nations' different speeds of progress. Lenin's interpretation of Marx's historical materialism sheds light on this subject matter in a different way. This theory views history as a dialectical evolution propelled by internal contradictions within each mode of production, moving through increasingly complex economic formations—from feudalism through capitalism toward communism—where each new stage emerges from the unresolved tensions of its predecessor. The theory fuels historical progress not by the evolution of idealist qualities such as races, ethnicities, and nations, but by the inherent contradictions and resolutions between the infrastructure and the superstructure within each dominant mode of production. Revolutionaries were inspired by Marx and Engels' 1848 writing in *The Communist Manifesto*, which stated that the progression of human society from capitalism to communism was marked by the conflict between the proletariat and the bourgeoisie: "we traced the more or less veiled civil war, raging within existing society, up to the point where that war breaks out into open revolution, and where the violent overthrow of the

bourgeoisie lays the foundation for the sway of the proletariat." (2010, 38) Marx and Engels's most significant thesis, which served as the foundation for the later Soviet project, asserted that the infrastructure dictated the superstructure. When class antagonism reached a point that created new communistic relations of production and, in general, revolutionized the infrastructure, or society's economic base, the political and ideological superstructure would shift to communism. Marx and Engels proposed a resolution to actualize communism, which was later reflected in the creation of world socialist states in the first half of the twentieth century:

> The proletariat will use its political supremacy to wrest, by degrees, all capital from the bourgeoisie, to centralise all instruments of production in the hands of the State, i.e., of the proletariat organised as the ruling class; *and to increase the total of productive forces as rapidly as possible* (57, emphasis added).

This resolution would come after the proletariat won the battle of democracy in some of the most advanced Western European capitalist states. However, this was not the case in Soviet Russia and Vietnam. At revolutionary moments, these societies had not yet undergone the capitalist stage of development. After overthrowing the Tsar regime, Lenin (2002a) came up with the idea that instead of building a full communistic society immediately, the revolutionaries would establish a communist political superstructure while adopting the capitalist sciences to leverage the feudalist infrastructure to a modern stage, equal to that of the capitalist countries.[2] The Leninist regime called this 'transitional period,' inherent in which was the sacred mission of "constructing socialism" (Buck-Morss 2000, 58). Influenced directly by Lenin's formula of revolution, in Vietnam, Hồ Chí Minh and other party elites prepared for a two-step revolution. Step one: gaining independence from the French and Japanese and overthrowing the feudalist regime through a bourgeois-democratic revolution. This required a temporary national unity (*khối đại đoàn kết dân tộc*), or a unity between the nationalist bourgeoisie and the proletariat. Step two: nationalizing wealth to eliminate feudalist landlords and bourgeoisie power. Industrial modernization, similar to what occurred in Soviet Russia, would follow the two-step revolution.

The rationale behind the two revolutions is that a society must be modern before it becomes communist. Here, we can understand modern, or more accurately, modernity, as a periodic label that signifies 'the present,' where a (capitalist) infrastructure and a (capitalist) superstructure align with each other. This present, however, wasn't the present of Lenin's

[2] Lenin (2002a) wrote: "We must take the entire culture that capitalism left behind and build socialism with it. We must take all its science, technology, knowledge and art. Without these we shall be unable to build communist society. But this science, technology and art are in the hands and in the heads of the experts" (70).

Russia and Hồ's Vietnam. During revolutionary moments, the two states found themselves enmeshed in the past. While Lenin constructed his dreamworld upon a materially[3] and culturally[4] backward feudalist country, Hồ struggled to deal with both a feudalist regime and two colonial powers, exploiting the country to the bone. The goal of the two newly formed communist regimes was to catch up with the West's stage of infrastructural development, located in the present.

This developmental framework epitomizes the inherent Eurocentrism in Marxist historical thought. Marx's proclamation in *Contribution to the Critique of Political Economy* that capitalist society "constitutes, therefore, the closing chapter of the prehistoric stage of human society" (Marx 1907, 13), and, as such, reveals how his vision of historical progress was conceived from the vantage point of Western experience rather than a truly universal history. As Chakrabarty (1993) argues, the idea of historicizing carries a chronological, developmental, and progressive assumption that renders non-Western experiences as merely 'pre-' or 'not yet' sufficiently developed, as he writes: "[Historicist thoughts] all share a tendency to think of capital in the image of a unity that arises in one part of the world at a particular period and then develops globally over historical time" (1094). Lenin's adaptation of Marxism maintained this directional thinking while attempting to accelerate it through revolutionary means. When applied to Vietnam, this framework simultaneously enabled anticolonial mobilization and generated devastating consequences when local realities failed to conform to theoretical expectations. As Chakrabarty (2000) observes, such revolutionary projects marginalized Indigenous historical experiences as mere "History 2s" that needed to be subordinated to capital's universal historical logic (63), leading to violent attempts to force society into predetermined developmental stages regardless of catastrophic human costs.

Vietnam's vision of the end of history shared similar characteristics with communism, a classless society where people have economic equality, and, as a result, also have political freedom. State theoreticians recognized the future abolishment of the state, as Lenin predicted in his vision of a higher phase of communist society, however, they didn't consider it to be something viable at the moment of revolution. They focused on building a new top-down mode of governance which Kevin Pham (2024) calls 'paternalistic democracy,' which entails that before being allowed to exercise democracy, the people must be guided, politically and morally, until they reach their maturity.

As De Tréglodé (2012) notes, Vietnam's philosophy of revolution was a fusion between cultural conservatism and progressivism. This fusion is

3 Lenin (2002a) wrote: "The real test to which our revolution is being subjected is that we, in a backward country, succeeded in capturing power before the others, succeeded in establishing the Soviet form of government, the power of the working and exploited people" (68).

4 Lenin (2002b) wrote: "Owing to our cultural backwardness we cannot crush capitalism by a frontal attack. Had we been on a different cultural level we could have approached the problem more directly; perhaps other countries will do it in this way when their turn comes to build their communist republics. But we cannot do it in the direct way" (72).

particularly evident in Hồ Chí Minh's vision of Vietnamese society organized into five castes: intellectual, farmer, worker, merchant, soldier. While maintaining a structure reminiscent of feudalist hierarchy, Hồ reinterpreted these castes as equal under the guidance of the communist party, embodying both traditional social organization and revolutionary egalitarianism.

Hồ Chí Minh believed the people were like little children, requiring guidance and education before they could participate in democratic governance. This paternalistic view stemmed from two key historical factors drawn directly from Vietnam's colonial experience. First, the feudalist education system was considered old-fashioned and inadequate, having failed to provide the Vietnamese people with the knowledge needed for modern citizenship. The traditional Confucian curriculum had not prepared the masses for scientific thought or revolutionary consciousness. Second, colonial exploitation had deliberately stunted Vietnam's infrastructural development, preventing the material conditions necessary for political maturity.

Vietnam's motto of the end of history, according to Trường Chinh (2000), was "nationalistic, scientific, populistic" (366). This means, in this end point, that Vietnam should be an independent state, not ruled by foreign power. It should prioritize scientific achievement because the version of Leninism Vietnam followed was technologically deterministic. And the achievement of scientific development should be for everyone, following Lenin's rule of transitional period: the infrastructure must be controlled so that its achievements are for the development of the communist future, a world for the popular masses. Of course, by interpreting communism as a fixed stage, the revolution betrayed Marx's dialectical view that no system is final or immune to change. It created a 'dictatorship of the proletariat' to stop the dialectic of history, making communism the end point. This teleological thinking and ideological dogmatism led to the new regime's simultaneous dreamworld and catastrophe.

Locating oneself in the course of history has remained Vietnam's greatest obsession for nearly eight decades following the Vietnamese revolution. The goal that different factions of the party—the orthodox Marxists, the technocrats, and the nationalists—all agree on is modernization. The question is, which modernity should Vietnam head to, while, after the Chernobyl disaster, all states in the Soviet bloc have come to the conclusion that Western modernity is the end of history in a pessimistic way? The following sections of my article will look into how the party elites put three different ideological trajectories on the table while trying

to answer this question during significant events in Vietnam's two most futuristic fields, space travel and nuclear physics.

Communism in Space, Nationalism on the Ground

In 1984, the remains of three soldiers were found, nine years after the end of the Vietnam War and three years after the communist-led unified country sent its first man into space, General Phạm Tuân (born 1947). This temporal juxtaposition—between the discovery of war casualties and Vietnam's space achievement—reflects the tension between apocalyptic realities and utopian aspirations that characterized Vietnam's revolutionary trajectory. Like the three young soldiers who wrote their final letter beneath a weathered tree in 1966, envisioning 'greetings to people in distant stars,' Vietnam's space program represented both an ideological commitment to the end of history and a technological attempt to accelerate historical development beyond its material conditions.

Before being selected as one of the two Interkosmos research astronauts, alongside Viktor Gorbatko (1934–2017) as the commander, embarking on the Soyuz 37 mission on July 23, 1980, and becoming the first Vietnamese and the first Asian individual to go into space, Phạm Tuân already had a career in the People's Army of Vietnam. His trajectory from fighter pilot to astronaut embodied Hồ Chí Minh's vision of paternalistic democracy, where the people as 'little children' grew up thanks to the ideological guidance of the Party. Tuân's space mission also symbolized Vietnam's attempt to 'leapfrog' historical stages, aligning with the Marxist-Leninist end of history that had been localized within Vietnamese revolutionary thought. Yet, paradoxically, this technological leap depended entirely on Soviet infrastructure, revealing the precarious disconnect between Vietnam's ideological aspirations and material realities; precisely the contradiction that would later produce catastrophic outcomes.

In 1965, Tuân enrolled in the military and got drafted into the People's Air Force. After two years, he completed his studies at the Military Pilot School in the Soviet Union and became a fighter-flying officer. He dedicated himself to defending the airspace of North Vietnam during the American War in the country. In 1968, he officially joined the Workers' Party of Vietnam. By mid-1972, he was chosen as one of the twelve pilots for night fighter training, which equipped him with the necessary skills to detect and shoot down B-52 aircraft. During Operation Linebacker II, an American air force strategic bombing effort against targets in North Vietnam from December 18 to December 29, 1972, Tuân was alleged to have

shot down an American B-52 aircraft. Despite the Americans disputing Tuân's accomplishment and claiming that the B-52 was hit by a surface-to-air missile, he was awarded the title of Hero of the People's Armed Forces in 1973 for his dedication in what the Hanoi side referred to as the 'Điện Biên Phủ in the air.'

In addition to his wartime experience, Phạm Tuân's personal background had a significant role in his selection as one of the crew members for the Soyuz 37 mission. Like the three soldiers whose final letter envisioned technological and political utopias, Tuân represented the ideal synthesis of Vietnamese revolutionary qualities. He was born into a family of farmers in Thái Bình, a poor area in northern Vietnam. "No one lifted Phạm Tuân to the sun when he was born, as some imaginative journalist wrote," stated a renowned Vietnamese writer in the official biography published in a state newspaper: "During his childhood, it is possible that nothing extraordinary occurred" (Hồng 2008). As per the biographer, during Tuân's time studying at the Military Pilot School in the Soviet Union, a doctor discovered his open-heart valve disease. Therefore, the school initially trained him as a mechanic. Through his personal training, he significantly improved his health, to the point where Soviet doctors recommended Tuân as the next candidate for airplane pilot training, citing his up-to-date health.

This narrative of personal transformation through revolutionary will parallels the larger Vietnamese aspiration to transform its historical trajectory through ideological commitment. Just as Tuân overcame biological limitations through discipline and determination, Vietnamese revolutionaries believed they could overcome historical 'backwardness' through ideological conviction and technological advancement. This reflects what Buck-Morss (2000) identifies as the 'dreamworld' of revolution: the belief that revolutionary will could accelerate or even transcend the material conditions of historical development.

Tuân was not revered as a deity but rather perceived as an average individual, like any other member of the proletarian masses, as stated in multiple biographies. It was the will of the little men that shaped their destiny, not the laws of nature, as Alexei Yurchak (2019), the anthropologist of the Soviet system, might, in a sarcastic manner, say. The revolutionary art of constructing the model citizen was designed to promote the communist system by suggesting that it enabled even ordinary individuals to find their rightful place within the system. However, the only requirement was that one's political will had to align with the party's agenda, rather than granting individuals the extraordinary power to control their own lives. In the communist utopia, individuals were rewarded for their contributions

to the system, which symbolized the common good, rather than for personal gain.

However, unlike the Soviet dreamworld, which needed to completely reject the past, the Vietnamese dreamworld both simultaneously rejected and built upon the past, as seen in Phạm Tuân's construction of identity. He possessed the qualities of a war hero, following in the footsteps of traditional heroes like Lý Thường Kiệt (1019–1105) and Trần Hưng Đạo (1231–1300), who defended the feudalist state against the Chinese and the Mongolians. Furthermore, he was a scientist working for the current regime to fulfill their desire of surpassing the natural progression of history and rapidly building a utopia. This dual identity—revolutionary modernizer and traditional patriot—reflects what I earlier described as a synthesis between cultural conservatism and political progressivism. This synthesis represents Vietnam's distinctive approach to the end of history, one that simultaneously embraced universal revolutionary principles while adapting them to particular cultural contexts.

Space travel represented a material manifestation of the Soviet world's idealist pursuit of 'time travel,' which aimed at accelerating the natural pace of history by bypassing capitalism and transitioning directly from feudalism to communism. It represented the remarkable success of industrial modernization in the most backward European country that lacked a capitalist market, unlike the Western development model. According to Gerovitch (2007), the technical design of Soviet spacecrafts and the pilot's role in operating them represented the technocratic approach to human affairs in the communist world:

> Soviet cosmonauts were 'designed' as part of a larger technological system; their height and weight were strictly regulated, and their actions were thoroughly programmed. Soviet space politics, one might say, was inscribed on the cosmonauts' bodies and minds, as they had to fit, both physically and mentally, into their spaceships (136).

This technocratic vision represents the Soviet's end of history—a perfectly engineered society where human beings functioned as components within a larger system. Yet this utopian aspiration also contained within it apocalyptic risks, as the subordination of human experience to ideological requirements created conditions for catastrophe.

This aspect exemplified the Soviet lifestyle: citizens were perceived as "the 'little cogs' of a grand state mechanism" (Gerovitch 2007, 139). The technical advancement of the egalitarian world was ahead of its time due to the collective efforts of both human actors and non-human mecha-

nisms, rather than being attributed to any individual. As the spaceship ventured deeper into space, the Soviet world progressed at a faster rate on its path to the end of history. Here, history was viewed as an objective and unchangeable progression towards a utopia. In this view, individuals were encouraged to identify their place in this historical narrative and take action to bring about the ultimate realization of the end of history, rather than questioning the objective nature of history itself.

In Vietnam, the ideology of scientific socialism regarded Lenin's interpretation of historical materialism as a theological belief. It aimed to use scientific progress to convince the masses that a communist triumph was certain, though the country's economic and political reality might tell a different story. As the astronaut was flying towards space on a spacecraft, all citizens were flying towards communism on a 'timecraft,' the country itself. This metaphor of temporal acceleration illuminates how Vietnam's space program was framed within revolutionary aspirations for the end of history—not merely as technological achievement but as evidence that revolutionary will could compress historical time, allowing Vietnam to catch up with and eventually surpass Western modernity.

Buck-Morss (2000) writes: "But the special position of the party as the vanguard of history meant that the possibilities, through an open temporality, of an ungoverned cultural revolution as the path to a new society became one of the dead ends of history" (49–51). While all possibilities for different futures were seen as dead ends, communism appeared to be an unattainable goal. During Phạm Tuân's time in orbit around the Earth, he likely saw that the timecraft was veering off course. The space hero's reflection prompted him to rediscover a communist, internationalist ideology that regarded humanity as a unified species, rendering other categorizations mostly irrelevant: "At that moment, home wasn't Vietnam, Russia, or any other country. It was Earth" (Manh Tung 2018).

This epiphany reveals the inherent contradiction within Vietnam's revolutionary conception of the end of history. On the one hand, the Marxist-Leninist framework promised universal human emancipation beyond national boundaries; on the other hand, Vietnam's revolutionary identity remained deeply rooted in nationalist resistance against foreign domination. This tension would become increasingly apparent as the global communist project began to fragment along national lines.

At the same time, although communism had not yet been wholly achieved anywhere, the socialist faction was on the brink of collapse. Tuân's commitment to internationalism was particularly vulnerable during the concurrent conflicts between socialist states, in which his country was involved: the Cambodian-Vietnamese War (1976–1991) and the Sino-Viet-

namese War (1979). The faction's inclination towards dissolution stemmed from the Sino-Soviet divide, which occurred in the late 1950s following the death of Stalin and Khrushchev's de-Stalinization. This resulted in a Marxist-Leninist ideological dispute between Mao and the Soviet authorities.

The division between the two communist empires gave rise to several confrontations that had the potential to result in catastrophic consequences. The most notable of these disputes was the 1969 Sino-Soviet border conflict, which carried the risk of nuclear warfare. These intercommunist conflicts represented precisely the apocalyptic scenario that revolutionary theorists had failed to anticipate—rather than achieving the end of history through international proletarian solidarity, communist states found themselves locked in potentially catastrophic geopolitical struggles that mirrored the very capitalist power politics they had sought to transcend.

The consequence of this division was the rapprochement between China and the United States in 1973, which weakened the solidarity of the communist bloc and compelled the Soviet Union to reassess its foreign policy and strategic positioning, as it now confronted the possibility of a two-front strategic situation. Although the event was just one of several factors that indirectly contributed to the decline of global communism, the remainder of the twentieth century saw the East and West abandoning dreamworld construction. Peaceful reforms such as China's *gaige kaifang* in 1978, Soviet Russia's *perestroika* in 1985, and Vietnam's *Đổi Mới* in 1986, took place after China-US rapprochement. Eastern Europe, on the other hand, faced decades of continuous violent revolutions. The continuity of Marx's timeline was challenged by the fragmentation of geography, as each country followed its own future. These futures were not necessarily communist, as Phạm Tuân imagined when he looked at the earth from outer space.

This geopolitical fragmentation reveals how Vietnam's revolutionary conception of the end of history gradually shifted from a universal teleology toward a more pragmatic nationalism. As the global communist project fractured, Vietnam adapted its revolutionary vision to prioritize national sovereignty and economic development over ideological purity. This shift reflected Vietnam's realization that dogmatic adherence to theoretical models—whether Marxist-Leninist or social evolutionist—could produce apocalyptic outcomes when divorced from material realities.

Phạm Tuân is the sole Vietnamese citizen to have gone into space thus far. Vietnam's limited progress in space exploration following its initial success implies that the country has never undergone significant technological growth during years of following a Soviet economic doctrine. On the

surface, Vietnam's reliance on the Soviet Union's infrastructural support is to blame for this lack of technological development. However, another reason for the divergence of Vietnam's technological development from the Soviet trajectory, evident from the fact that its philosophy of revolution is a combination of more than just Marxism-Leninism, is that its concept of the end of history has varied from that of the Soviet Union after its various encounters with catastrophes caused by ideological dogmatism.

The space mission itself captured this tension between revolutionary aspiration and apocalyptic possibility. While framed as a triumph of socialist science and evidence of Vietnam's accelerated historical development, it simultaneously revealed Vietnam's technological dependence and the fragility of its revolutionary vision. Rather than representing a genuine leap toward the end of history, Tuân's mission paradoxically highlighted the disconnect between Vietnam's ideological superstructure and its material infrastructure — precisely the contradiction that Lenin's theory of the transitional period sought to resolve.

In the Cold War context, the Soviet and Western utopian imaginaries were often associated with either the global dominance of communism or market democracy. The dystopian side of this competition was the threat of global nuclear devastation. The purpose of the Soyuz 37 mission was not merely scientific but also military and ideological. The space voyage represented Vietnam's commitment to the spread of Soviet modernity, even in space. Nonetheless, flying towards symbolic communism was not the country's only priority. The dreamworld for Vietnam was the independence from foreign powers, and the catastrophe was the loss of autonomy. A weak economy dependent on Soviet aid and hostile diplomatic relations with both China and the US could, thus, potentially lead to catastrophes.

In 1986, the Party changed its principles, leading the country via economic transformation towards a market economy. Rather than being replaced, the communist leadership chose to embrace a more nationalistic political agenda to stay relevant in a political landscape where its former friend, China, had become an enemy, and its former enemy, the US, had become an ally. Following a duration of 7 days, 20 hours, and 42 minutes in space as part of the Soyuz 37 mission, the astronaut hero came back to a world where communism had transitioned into a superficial concept. Following *Đổi Mới*, the end of history underwent revision. This revision reflected Vietnam's evolving understanding of revolutionary temporality. Rather than pursuing an abstract end of history defined by theoretical models, Vietnam increasingly adapted its revolutionary vision to accommodate material realities and particular historical circumstances.

Nuclear Risks and the Fragile End of History

While Phạm Tuân's space mission is often celebrated as a milestone in Vietnam's scientific advancement, a tragic incident in nuclear physics casts a shadow over the country's revolutionary aspirations. Twelve years after Vietnam's first citizen was sent into space, on November 17, 1992, Trần Đức Thiệp (born 1949), a researcher at the Hanoi Institute of Nuclear Physics (HINP), suffered a severe radiation accident that would have far-reaching consequences (IAEA 1996). This incident, occurring just one year after the Soviet Union's collapse, emphasized the risks of pursuing an accelerated end of history through scientific advancement without adequate infrastructural foundations: a central tension in Vietnam's revolutionary trajectory that I have highlighted throughout this essay.

Thiệp was working with an electron accelerator, a gift from the Soviet Union in 1982. During a routine task, he inadvertently placed his hand over an electron beam while adjusting a sample of gold ore. This task was typically performed using compressed air, but Thiệp had chosen to do it manually. At the same time, his colleagues, believing he had left the room, switched on the machine. As a result, Thiệp's hands were exposed to a beam current of 6 μA for two to four minutes. The consequences were devastating: after delayed diagnosis and treatment, doctors eventually amputated his entire right hand and two fingers on his left hand due to progressive necrosis and poor healing of the irradiated tissues. This accident reflected a dangerous disconnect between advanced theoretical knowledge and underdeveloped infrastructure. The catastrophe that befell Thiệp wasn't merely a personal tragedy but a manifestation of the contradictions inherent in Vietnam's revolutionary scientific aspirations—pursuing advanced theoretical knowledge while lacking the material infrastructure to implement it safely. The IAEA report on the incident highlighted precisely this contradiction:

> Viet Nam, like other developing countries, has given first priority to meeting the immediate needs of its people for housing, education and economic development. HINP's limited budget made the purchase of scarce spare parts much more difficult and this contributed to the likelihood of an accident. Moreover, the HINP staff had the highest academic qualifications but they lacked sufficient training in radiation protection and failed to build an adequate safety infrastructure. These weaknesses were compounded by inadequacies, again for lack of resources, in regulatory oversight and expert radiation protection advice at the national levels (IAEA 1996, 20).

This assessment triggered post-*Đổi Mới* Vietnam's age-old anxiety that has haunted the country's industrial modernization effort since the revolution's inception: not merely an out-of-sync relationship with the West's technological advancement, but a fundamental lack of synchronization between the country's infrastructure and superstructure. While Thiệp and his Soviet-trained colleagues possessed advanced theoretical knowledge, HINP's 1992 infrastructure was inadequate for safely conducting experiments. As Thiệp himself later noted, before the Soviet Union gifted the electron accelerator to HINP in 1982, scientists at the Joint Institute for Nuclear Research (JINR) in Dubna had already been using it for ten years (Nguyễn et al. 2019). The device itself was outdated, yet Vietnam's infrastructure couldn't even support its safe operation. The nuclear accident exposed the fragility of Vietnam's scientific ambitions in a post-Cold War world.

The origins of Vietnam's nuclear physics program reveal how the country's revolutionary scientific aspirations were shaped by both colonial legacies and Soviet influence. In the early twentieth century some of Vietnam's most influential physicists and mathematicians received their education in France and Germany before returning to contribute to revolutionary science after 1945. Hoàng Thị Nga (1903–1970), the first Vietnamese to earn a PhD in physics from the University of Paris in 1935, exemplifies this trajectory, though her brief tenure as principal of the communist-run College of Science in Hanoi ended with her migration to France in 1946 (Quý Hiên 2020). Those who remained in Vietnam primarily worked in educational institutions, with their contributions focused more on cultivating scientific thinking than on directly advancing the country's infrastructural development.

Nguỵ Như Kontum (1913–1991), who studied under particle physicist Frédéric Joliot-Curie's (1900–1958) supervision at the University of Paris before returning to Vietnam as a revolutionary act in 1939, played a crucial role in establishing communist Vietnam's physics education. Throughout his career, Kontum not only served as an educational administrator but also wrote and translated numerous physics textbooks, which became foundational in Vietnam's physics education. In 1964, he introduced a standardized Vietnamese vocabulary for physics studies, aiming to align Vietnam's scientific epistemology with that of the Western and Soviet worlds. Kontum's successors, including particle physicists like Nguyễn Đình Tứ (1932–1996), Dương Trọng Bái (1924–2011), and Nguyễn Văn Hiệu (1938–2022), continued this trajectory by pursuing doctoral studies at the Joint Institute for Nuclear Research (JINR) in Dubna, Russia. These Soviet-trained scientists later occupied prominent positions in Vietnam's scientific insti-

tutions. The two accelerators that Thiệp worked with at HINP were gifts from JINR to Nguyễn Văn Hiệu personally. This revealed the fact that Vietnam's nuclear program depended on personal connections with Soviet institutions rather than systematic infrastructural development.

From 1945 to 1986 Vietnam's emphasis on physics education served dual purposes. Primarily, it aimed to cultivate future generations of scientists who would rebuild the country after years of war. Additionally, it played a crucial ideological role by promoting a vision of a peaceful, prosperous future, thereby bolstering public morale and faith in Vietnam's struggle against foreign invaders and the broader communist cause. Vietnam's focus on training high school students for international mathematics and physics Olympiads, with success in these competitions enhancing the country's standing in the global scientific community and showcasing the supposed superiority of the communist system, exemplified this ideological aspect.

However, this strategy created a significant disconnect: while Vietnam's academic achievements in theoretical physics were impressive, its technological infrastructure remained underdeveloped. This disparity between advanced scientific education and the country's actual technological capabilities became increasingly problematic as communism's influence waned globally. Although the emphasis on physics education initially helped the party leadership maintain ideological credibility, the growing gap between theoretical knowledge and practical application emerged as a major challenge in the post-1986 era. The IAEA report's classification of Vietnam as a 'developing country' marks a significant shift in how the country positioned itself within global hierarchies after the Cold War. Since the ideological war between capitalism and communism ended with the Soviet Union's collapse in 1991, the classification of countries based on ideological orientation has been replaced with a universal hierarchy of economic advancement. According to Nielsen (2013), the terms 'developed' and 'developing' countries became more common in the 1960s, especially in policy discussions about transferring resources from richer to poorer countries. In this context, 'developing countries' served as an alternative label for 'poorer countries,' and implicitly, 'ex-communist countries.'

In 1992, Vietnam was labeled as a 'low-income country,' with a GNI per capita of $130 (World Bank). Once proud to be one of the most revolutionary actors during the Cold War, communist Vietnam finally accepted playing by the rules of the capitalist world market, where they had nearly no advantage. Following the logic of historical materialism, they were temporarily going backward for the sake of leveraging their position in the new classification system, having abandoned the 'more advanced' socialist

economy. Though the political superstructure wasn't 'downgraded' to a liberal democracy, as many countries in Eastern Europe underwent after abolishing communism, it certainly changed to become more synchronized with the infrastructure. As Thiệp observed, during the 1980s, the state's budget for fundamental sciences decreased because the country's leaders wanted to meet the people's needs for economic development instead of investing in utopic visions. Rather than pursuing a predetermined end of history through ideological purity, Vietnamese leaders increasingly acknowledged the material constraints and historical contingencies that shaped their developmental trajectory.

In the decades following the 1992 Hanoi radiation accident, state-owned nuclear research institutions in Vietnam, such as the Department of Radiation and Nuclear Safety, have assumed the role of licensing and safety monitoring for radioactive sources used in healthcare, construction, and nuclear energy. However, as Vietnam's economy has become more dynamic since 1986, with nuclear technology increasingly intersecting with daily life, these institutions face new challenges related to radioactive leakage (Nguyễn 2015). These risks stem primarily from poor radiation management processes in both public and private sectors. A worrisome practice has emerged whereby radioactive sources, usually unwittingly, are taken and sold on the junk market. Unaware of the actual nature and worth of these materials, thieves sell them at shockingly cheap prices. Unbelievably, the state department regularly fails to locate these lost or stolen radioactive sources. This state of affairs, again, emphasizes the uneven development of Vietnam's technical infrastructures. While some industries have developed quickly, others—like radiation safety management—lag behind. This gap raises questions about when and whether Vietnam's infrastructure will ever catch up with Western standards.

These continuing nuclear risks emphasize the apocalyptic dimension of Vietnam's revolutionary trajectory: Weak management systems and the adoption of a market economy have created dangers outside of ideological concerns. Vietnam today could see environmental and medical crises similar to those detailed in Western narratives of the Anthropocene. Western-style modernity is seen by the party elites just as a transitional phase en route to their ultimate aim: a communist utopia. But this backward path towards capitalism takes time and has serious consequences which additionally raises a serious issue for the leaders: will they ever reach their communist end of history given these obstacles? Or will time run out before they can realize their dreamworld?

Trần Đức Thiệp's nuclear accident thus stands alongside Phạm Tuân's space mission as an emblematic moment in Vietnam's revolutionary tra-

jectory. Where Tuân's mission represented the utopian aspiration to accelerate historical development through technological achievement, Thiệp's accident revealed the apocalyptic risks inherent in pursuing such acceleration without adequate material foundations. Together, these events illustrate the central argument I have developed throughout this essay: Vietnamese revolutionaries articulated their own version of the end of history that simultaneously justified revolutionary necessity while acknowledging the possibility of catastrophic outcomes. Rather than treating Vietnamese revolutionary thought as derivative of European Marxism, this analysis reveals how revolutionaries transformed abstract ideology into lived experience, creating distinct ways of being and knowing that continue to shape Vietnam's engagement with modernity.

Conclusion

Phạm Tuân's space mission and Trần Đức Thiệp's nuclear accident represent critical moments in Vietnam's revolutionary trajectory, illustrating the tension between ideological aspirations and material realities that has shaped the country's engagement with the concept of the end of history. These events reveal both the transformative potential and catastrophic risks inherent in Vietnam's distinctive blend of Marxism-Leninism and local cosmologies.

Critics of Leninist historical materialism have highlighted its deterministic perspective, which views history as following a linear path toward communism—overlooking the complexity of human development. By suggesting a predetermined endpoint, it reproduces religious teleologies. As Kilminster (1982) argues, the Marxist-Leninist notion of historical necessity essentially replays Christian theology in secular form, with socialism replacing heaven as the promised land.

Throughout four decades under Soviet-style communism, Vietnam has continuously revised its understanding of historical progress. The 1986 *Đổi Mới* reforms signaled a crucial transition away from orthodox Marxist economics, demonstrating a willingness to adapt ideological principles to pragmatic needs. This evolution reflects Vietnam's movement beyond dogmatic teleology toward a more reflexive engagement with historical contingency.

The teleological conception of history, with communism as its inevitable culmination, proved inadequate both theoretically and practically. The attempt to accelerate historical development by bypassing capitalism—central to Lenin's theory of the transitional period—resulted in

a dangerous disconnect between advanced theoretical knowledge and underdeveloped infrastructure, as evidenced by Thiệp's nuclear accident. This disaster illustrates the apocalyptic risks inherent in dogmatic adherence to revolutionary teleology.

Yet, Vietnam's response doesn't simply reveal disillusionment but a transformation of revolutionary consciousness. Rather than abandoning the end of history entirely, Vietnamese leaders have reconfigured it along more provisional lines; maintaining socialism as an aspirational horizon while acknowledging the historical specificities and material constraints that shape their developmental path.

The three Việt Cộng soldiers who wrote their final letter in 1966, imagining a future of socialist triumph and interplanetary friendship, perhaps intuited what Vietnam's revolutionary trajectory would reveal; that the end of history might not be a predetermined endpoint, but an opening toward new forms of social organization beyond our current imagination. This perspective acknowledges the productive tension between revolutionary aspiration and apocalyptic awareness that continues to shape Vietnam's engagement with modernity.

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Fontaine Lien Ongoing Apocalypse and Ecological Consciousness in Han Song's Science Fiction[1]

Abstract: In contrast to the usual format of apocalyptic fiction which provides redemption or resolution, Chinese science fiction writer Han Song's *Subway* (2010) (as well as his other works) uniquely embodies Timothy Gilmore's concept of "continuously unfolding apocalypse," which is associated with a "wildness" that prompts true ecological consciousness. Most science fiction of the apocalyptic mode unwittingly promotes either technological optimism or moral and ideological certitude, and dispels feelings of helplessness and uncertainty engendered by these very apocalyptic scenarios. However, Han's post-apocalyptic visions depict urban collapse from which there is no easy recovery, nor a convenient way to assign blame. *Subway* inventively refuses to provide satisfactory resolution but instead mires the reader in uncertainty through many aspects of the text, including narrative technique and stylistic choices. I argue that in doing so, *Subway* provides a challenging new way of looking at apocalypse, one that, in its very difficulty and unpleasantness, challenges the gospel of hyper-development and is a more effective ecological text than those that provide simple catharsis.

Keywords: Chinese science fiction, Han Song, contemporary Chinese fiction, weird fiction

It is an oft-repeated cliché that the world always seems to be ending. Whether because of sensationalist news cycles amplified by demands for engagement or social media channels that facilitate reflexive sharing, it

[1] The views expressed in this article are those of the author and do not reflect the official policy or position of the U.S. Naval Academy, Department of the Navy, the Department of Defense, or the U.S. Government.

can seem that the world is always in crisis, or in worse state of crises than ever before. Escapist narratives of human suffering and apocalypse are as popular as ever, often responding to real existential threats: new advanced technologies, pandemics, climate crisis, war. However, the emotional register of these stories is often counterintuitive. Despite or precisely because of the acute stresses of our modern existence, it can be tempting to experience worst-case scenarios as catharsis and even pleasure.

The work of Han Song (韩松), one of the most prominent Chinese science fiction (SF) writers of his generation which includes the likes of Liu Cixin (刘慈欣, the author of *The Three-Body Problem* fame in the West), He Xi (何夕), and Wang Jinkang (王晋康), is remarkable for its departure from this emotional register. Among this generation of "New Wave" writers, whose work notably advanced literary quality and narrative complexity in Chinese SF,[2] Han stands out in terms of his dark themes and inscrutable writing style. In this article, I turn to Han's novel *Subway* (地铁) (2010), which refuses to provide a satisfactory resolution. Mainstream visions of apocalypse in speculative works typically emphasize redemption and resolution, while others portray apocalypse as fleeting, merely an excuse to showcase renewed power and prosperity. By contrast, I argue, *Subway* embodies Timothy Gilmore's "unfolding of an apocalyptic event without discernible end or discrete beginning," which Gilmore associates with a "wildness" that prompts true ecological consciousness (Gilmore 2017, 396). Han mires the reader in irresolution using a number of devices: his portrayal of the disorienting passage of time, an emphasis on humans' lack of agency, and gestures toward the Buddhist concept of *samsara,* or endless wandering. In doing so, he challenges his readers to understand apocalypse in a new way, one that entraps us in an abiding discomfort rather than providing catharsis. In such circumstances, the repetition and implacability of apocalyptic worlds do not give way to renewal or rebirth, but sustain our attention on a diminished yet nonetheless invaluable present.

Apocalyptic Themes in Chinese Science Fiction

Dark speculative visions first emerged in Chinese SF as early as 1914 (Isaacson 2017; J. Liu 2020; Andolfatto 2019). "Terrifying Great Planet" (可怕之大行星) (Xia 1914), a short story published in the weekly magazine *Saturday,* imagines that in the year 11914, a newly discovered planet ten thousand times larger than the sun causes mass suicide because of its impending collision with Earth. When the collision does not happen, the planet is inadvertently restored to its pristine natural condition: animals living with-

2 I believe that this designation originates from, or was at least popularized by Mingwei Song in "After 1989" (2015). Li Guangyi uses a comparable term, "New Era" (*xin shidai*), in a Chinese-language article published the same year (2015).

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out fear of human interference. Echoes of this ecological consciousness can be found in more recent Chinese SF as well. In many contemporary apocalyptic works, the fate of the environment remains a common concern, with catastrophe frequently brought on by unforeseen natural disasters, alien invasion, or scientific recklessness. To name just a few titles, Liu Cixin's *The Wandering Earth* (流浪地球) (2000), Yang Wanqing's "Epitaph" (杨晚晴, 墓志铭) (2020), Bao Shu's "Daughter of the Ocean" (宝树, 海的女儿) (2013) and "On Pluto We Witness the End of the World" (在冥王星上我们坐下来观看) (2012), Su Xuejun's "Star Tide: Kindling" (苏学军, 星潮: 火种) (2010), and Wang Nuonuo and Xia Qian's "Moonlit Homeland" (王诺诺、夏谦, 故乡明) (2019) all describe humanity's impending demise as a result of cosmic disaster, while Wang Jinkang's "Ewa's Return" (王晋康, 夏娲回归) (2011) pins the blame on reckless scientific invention. The specter of nuclear war is also frequently the catalyst in these scenarios, as in Chi Hui's "Impostor Algorithm" (迟卉, 伪人算法) (2010). In other instances — for example, Liu Cixin's "Taiyuan Love Story" (太原之恋) (2010), Cha Shan's "Basement Millionaire" (查杉, 地下室富翁) (2018), and Zhang Ran's "Great Famine" (张冉, 大饥之年) (2014) — human stupidity, selfishness, or malice is to blame.

Liu Cixin's *Remembrance of Earth's Past* (地球往事) (2008–2010) trilogy may be the most popular apocalyptic text in Chinese SF, its English translation a bestseller even prior to the Netflix adaptation of the first book. The trilogy ends with the extinction of most of humanity and even the death of the universe. Such finality, while grim, provides a narratively satisfying and intellectually rewarding science-fictional conclusion in that it imagines an end point for the universe, the fate of which has been speculated upon by scientists and fiction writers alike. The conclusion, while pessimistic, is intellectually rewarding and provides closure. When we consider his work as a whole, however, scholars often describe Liu as a scientific optimist who thinks that human salvation lies in expanding into the universe (Zhou and Liu 2022; Y. Liu 2016; Codeluppi 2022) — some have pointed out that this type of thinking is ultimately a fantasy which suggests that we do not need to effectively manage our resources, because 'more' can always be found elsewhere (Luo 2022). Not only that, what is found is naturally thought to be ours to claim.

In addition to gratifying readers' anticipation of closure, these types of narratives serve another purpose within the Chinese political sphere. Advanced technology is a major area of focus for China's internal policy, as well as an important pillar in China's efforts to bolster its image on the world stage. Recognizing that domains like chip technology, artificial intelligence, and quantum computing will play an outsized role in the country's

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continued role as a global power — to say nothing about the role these technologies play in national security — China has strategically prioritized these fields (Goswami 2023). SF naturally centers technology, and thus speaks to China's self-image as a leader in technological development.

As easily distributed and consumed vehicles of spectacle that speak a global cinematic language, Chinese SF films provide a striking example of how seamlessly SF narratives fit into the government's soft power propaganda toolbox. Much like the typical Hollywood blockbuster, they are appealing in part because audiences crave dramatic, violent spectacle, and they want to see relatable characters triumph over difficult circumstances. For example, two recent Chinese apocalypse films in this mold, *Warriors of Future* (明日战记) (2022) and *Shanghai Fortress* (上海堡垒) (2019), feature science-fictional threats that attack China but are vanquished by Chinese heroes and what is essentially the Chinese military, despite gestures toward international cooperation. Both films feature grim visions of the future where resources are scarce, sometimes rendered so by insatiable human consumption habits. The specter of nature not being an endless extractable resource lurks even with these cultural products that seem to be pure entertainment. However, the films' apparent environmentalist messages are almost beside the point: the spectacles of military technology, satisfying destruction, and Chinese heroism are the goal. Therefore, in terms of confronting ecological problems that are highly relevant to our current reality — resource scarcity — both of these films represent the type of anodyne apocalypse narrative Gilmore discusses in his work, where the danger is processed and rendered almost irrelevant by film's end. In fact, despite the on-screen destruction which serves the purpose of spectacle, we see no major differences in the on-screen characters' material lives: they still have an abundance of resources in the form of habitation, clothing, food, and technological equipment.

While Chinese film industry leaders have an interest in selling spectacles of apocalypse intended to thrill and ultimately satisfy viewers, works of literary SF can be more nuanced. Just as some works of SF reinforce received notions in contemporary geopolitics (for example, the idealization of technology and the military), others subvert such notions instead.

Hans Song's Continuously Unfolding Apocalypse

In addition to the thrill of cinematic spectacle, fictional depictions of dystopia and apocalypse can also be attractive because of their palliative

properties. How can such dismal scenarios be a source of comfort? As scholars have pointed out, such narratives allow us to rehearse our collective anxieties in a safe way, facilitating either catharsis or prompting new ideas and solutions (Weaver 2014; Broderick 2014; Quinby 2014). The majority of Western apocalypse narratives reflect a "Christian eschatological vision," emphasizing motifs of salvation and sacrifice, "which order the apparent complexities of historical process into a clear narrative of suffering leading to revelation and redemption" (Gilmore 2017, 393). In game narratives, the mechanics of gameplay usually invite the reader-player's participation, indulging the fantasy of becoming a savior through participatory action. Even in darker and purely secular stories that end at the moment of apocalypse, the hopelessness invited by the prospect of the end of the world can provide a satisfying sense of narrative resolution that discourages us from further investigating potential causes and solutions for the anxieties revealed by the narrative (Gilmore 2017, 393).

As a contrast to these narrative features, Gilmore frames what he calls "wildness"—a concept similar to the Chinese *ziran*, a "self-arising"—as a path toward a more ecological consciousness. Gilmore argues that if we can understand apocalypse not as an "after" but as "that which is continuously unfolding in our present," we come close to understanding the concept of "wildness," or the Chinese *ziran* (Gilmore 2017, 406-407; my wording). Rebeccah S. Oh's discussion of "apocalyptic realism" sheds light on the real-world significance of this continuous unfolding, noting that while in much of the developed world apocalypse is understood as a spectacular and speculative event of destruction, for many indigenous and at-risk communities apocalypse is already either historical or ongoing—"a historical product and localized effect rather than a totalizing ahistorical future" (Oh 2022, 970). *Subway* orients the reader at first in this register of localized effect, situating the origins of apocalypse within one worker's ordinary reality of commuting to work, thus maintaining a sense of the immediacy and constancy of apocalypse. At the same time, however, the changes that later occur to this mundane setting of commuting and working (the train and train stations) stand out as all the more disorienting in their contrast.

The critic Wang Der-wei has described Han Song as a "dark consciousness" in contemporary Chinese fiction (2020, 68), and with good reason. In many of his works, Han returns to the theme of post-apocalyptic humanity. Survival is qualified and often demeaning; the overall effects are a diminished sense of human importance and the notion that humans are inseparable from their environment. As Phoebe Wagner theorizes in her discussion of the environmental grotesque, fear and horror can be seen

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as preceding acclimatization to, and even acceptance of, world-transform-ing events such as climate change (2023, 912). However, unlike Han, Wag-ner optimistically identifies harmonious cooperative alliances as a likely outcome of such a transformation (2023, 926–27). Contrary to Wagner's outlook, Han's work stands out as consistently refusing to provide satis-factory resolution, either optimistic or pessimistic. His portrayal of a self-sustaining apocalypse that is not narratively bound by a sense of resolu-tion marks a departure from more optimistic science-fictional texts that conceive of humanity's future or its triumph over apocalypse. In *Subway*, destruction is figured not as an endpoint but as a constant, as death con-tinually leads to mutation and new modes of existence.

Ontological Wildness: Han Song's Subway and the Decentered Human

To achieve these effects in *Subway*, Han invokes themes of ontological uncertainty and irresolution, decentering humanity and unmooring us from familiar notions of temporality. Written in response to China's dra-matically accelerated development of rail and high-speed rail networks, *Subway* comprises five stories that appear to be in chronological order. The connections between these stories remain cryptic, aside from the unexplained persistence of functioning railway technology through mul-tiple apocalypses. The first story opens with a fictional universe that is roughly contemporaneous with and quite similar to our own, but where the subterranean networks built to house underground public transporta-tion conceal secrets unknown to the general population: aliens (who may or may not be mutated humans) from the future have created experimen-tal wormholes in order to escape or avert an unspecified world-ending event. These wormholes create disastrous consequences for the subway passengers, sending them on a path of mutation. Members of one of these mutated branches of the human species burrow deeper and deeper within the subway system, where they eventually learn to live among a mysterious, seemingly sentient species of fungus called the "Friend of the Subway." Another branch seems to have escaped to the stars, although several thousand years later, the relationship between these mutated spe-cies and a more familiar version of humankind is tenuous and mysterious. The protagonist Old Wang recalls that, in his youth, some were excited about the potential for nuclear destruction. In that scenario, "[m]any would die, but some would survive […] and allow themselves to gloriously

transform through radiation, becoming a different kind of being" (Han 2020b, 16–17).[3]

This is indeed how events unfold in the novel's interlinked stories: "Last Train," "Surprise Change," "Symbol," "Paradise," and "Ruins." In "Last Train," Old Wang witnesses mysterious abductions by alien-like creatures in the subway, but his investigations yield confusion and no answers. Eventually, Old Wang himself falls victim to abduction. "Surprise Change" follows Zhou (Wang's son-in-law) as he boards the subway for his seemingly mundane commute, only to witness his fellow passengers transform dramatically: Governed by an exponentially accelerating passage of time, the train becomes the birth site for millions of generations of mutated humans. When it finally stops, it is clear that both human beings (if they can still be called such) and the world are much transformed. The next story, "Symbol," appears to take place in post-disaster "S City" (perhaps Shenzhen or Shanghai), where the world is contaminated with post-industrial pollution and strange mutated creatures, yet humanity—and the subway—still exists. In this time period, the characters worry about a mysterious impending disaster, but by the end most of them have either died or mutated beyond recognition during the course of their subterranean "truth-seeking" endeavor. Protagonist Xiao Wu is the only one who remains to witness the death and rebirth of the universe, a process described as "the stuff of time-space gurgling as it emerges, swelling like blood-engorged tissue, inundating the entire world like the Great Flood" (Han 2020b, 182).[4] Despite the world apparently ending, "Paradise" describes a new world where generations of humanity live underground, having evolved into distinct tribes, in subway trains that miraculously still traverse the subterranean tracks. Through fantastical remembrances and vague allusions such as Old Wang's hints about nuclear destruction, the narrative traces the ultimate cause of world-ending disaster to the construction of the subway, a process shrouded in secrecy. The depth, speed, and permanence of the subterranean system and its vehicles create grotesque and disastrous consequences that play out in each subsequent story. Indeed, Wang's fruitless investigations in "Last Train" sets the tone for the entire book.

In depicting the effects of mutation on the subway passengers, as well as technology's cumulative effects on subsequent generations which nonetheless remain hopelessly ignorant about their predicaments, Han comments on the prevalence of hyper-development and forgetfulness in modern Chinese culture, a feature that Cara Healey (2019) has also pointed out in her work. This forgetfulness is one of the main reasons history seems to be doomed to repeat itself throughout the five stories and,

3 "许多人会死去，但另一些人会活下来 […] 然后，放任自己在核辐射下发生壮烈的变异，成为另外一种生物。" Translations from Han's works have been undertaken by the author of this article.
4 "仿若时空的玩意儿再一次咕嘟冒了出来，充血般开始膨胀，大洪水一样，冲刷过整个世界。"

along with Han's temporal manipulation, serves to withhold information and resolution from the characters who never reach salvation. Whereas in many other works of apocalypse, there is no question that the restoration of humanity involves restoration of technology and infrastructure, in *Subway* these domains and institutions are consistently subject to skepticism and conspiratorial scrutiny, because the origins and nature of these institutions have been forgotten or suppressed by the unnaturally accelerated passage of time. While his contemporaries also cover extraordinarily extensive time durations in their work, continuity and information are explicitly and deliberately maintained, as in the preservation of human artifacts on Pluto, or in the memories of the last surviving human in a micro-universe in Liu Cixin's *Death's End* (死神永生) (2010). These outcomes, however bleak, provide a rational explanation for apocalypse and a way for humanity to preserve its own self-image through remembrances. No such luxury is afforded to Han's characters.

The 'Always Already Here' Apocalypse and Disruption of Anthropocentric Time

Contrary to the inexorable but predictable unfolding of time in other SF narratives, Han's work emphasizes the continuous present of apocalypse. In this, *Subway* evokes Elana Gomel and Vered Karti Shemtov's use of the term "limbotopia" to designate a new twenty-first century "genre of the continuous present" (2018, 61), one that is capable of imagining neither dystopia or utopia, only a present that seems impervious to change whether due to ongoing catastrophic war or inescapable dominance of capitalism. In addition to the wormhole that the subway train travels through in "Surprise Change"—which accelerates human evolution to a grotesque finality—as well as the narrative jumps in time that present to the reader subsequent apocalypses faced by the same archetypes of humanity, Han often compresses time to bring a forgotten past hauntingly to the fore. This manipulation of temporality is a defining feature of the presentness in *Subway*.

Characters try to escape the current predicament, to find satisfactory answers, but are frequently presented with evidence of compressed time, which evokes the sense that the catastrophe they are trying to escape or prevent has 'always already occurred,' and is thus inescapable. An example of this appears in the very first section, "Last Train," in which, after Old Wang witnesses the mysterious events on the subway, he half-heartedly investigates what transpired but soon settles back into his old

way of life. A few months later, Wang's supervisor arrives at work to find Wang encased inside a large green bottle. The supervisor recalls that this employee had retired half a year ago, but was now "in a primordial state [...] like a specimen that has been dead for several years" (Han 2020b, 41).[5] A few chapters earlier, Wang indeed had the unsettling feeling that he had already perished long ago in an unspecified nuclear disaster. The reader follows along with Wang's subway investigations, only to be presented with evidence in the section's final chapter that throws the timeline into confusion, emphasizing both the futility of Wang's search as well as the inevitability of his stasis and 'presentness' as a specimen.

Han also reinforces the idea of persistent, stagnant time through the way recurring objects of unknown origin appear in each segment of the narrative. These recurring objects include the aforementioned large green bottle, a rusted, crystalline cross, black-rimmed glasses, and a literary magazine called *Reading* (*Dushu*). Characters stumble upon these objects with no understanding of their meaning, and the reader only recognizes their significance through their recurrence. These objects persist throughout the connected narrative in a timeless, inscrutable way. To trace the recurrence of the magazine as an example, Old Wang notices a fellow passenger reading it on their ill-fated subway car. Later, he finds a copy of the magazine at the library, but it is filled with blank pages. In "Sudden Change," one of the subterranean explorers carries around an old copy of the magazine to use as toilet paper. In even later segments, both the mutated human tribes as well as alien visitors to Earth seem to be using the magazine as a guidebook of sorts. It is possible that the magazine literally possesses important information for these later characters, but the nature of the information is not explained, keeping the original effect of the magazine as a timeless, inscrutable symbol. Along with Han's use of time compression, these symbols create a sense of temporal confusion that disorients both past and future, retaining only the present. The characters allude to a mysterious disaster in the universe that has created energetic chaos, disrupting the functioning of both time and memory. While Han's writing is always deliberately ambiguous, the multiple allusions to this disaster as well as the characters' speculations point to the construction of the subway as the initial incident that seems to have precipitated later events. In other words, technology is to blame for interrupting the fixed trajectory of time.

Paul Huebener's discussion of ecocritical time studies emphasizes the artificial, almost arbitrary nature of time subject to human rationalization, especially when it comes to how we understand nature and the environment. He cites the example of politicians calling for decisiveness

5 "那正是他远古的形态 [...] 仿若一具标本, 好像已经死去许多年了。"

and speed when approving oil pipelines, but circumspect slowness when it comes to understanding the effect of those pipelines on the environment (Huebener 2018, 330–31). Huebener notes that even as the human world indexes itself to nature by way of sunlight and weather patterns, it is still in service of anthropological activities such as harvesting, livestock breeding (Huebener 2018, 335). To address this fallacy, he highlights the need for a "literary ecocritical time studies" that destabilizes anthropocentric time in the name of thinking more eco-critically (2018, 337).

In fact, *Subway* does precisely that: It explodes notions of industrialized, anthropocentric time in its manipulation of our sense of time, allowing symbols to become part of an eternal present, yet lacking the explanatory contexts of their origins. In addition, physical changes to Earth take place over unspecified millennia, during which events like species-mutating and landscape-altering cataclysms are artificially compressed. Our understanding of time no longer matters in the face of irreversible changes that defy human comprehension. Instead of experiencing disaster almost imperceptibly, as characterized in Rob Nixon's formulation of the "slow violence" of climate catastrophe (2011, 2), Han's work skips the change almost entirely and drops us into the horrifying, incomprehensible now for each section's protagonist. When in many other apocalypse narratives, the moment of catastrophe provides forward momentum for the characters who become agents of positive change or at least narrative resolution, in *Subway* the characters cannot even understand the nature and origin of catastrophe. Lacking this information, they have no basis with which to move forward and are forever stagnant in the current moment, continuously and irresolutely speculating technologies which created their world, but also possible technological disasters to come. Lacking concrete information about both the past and the future, the reader comprehends that they are reading a different type of apocalypse narrative, one that will continuously remain in the present.

Cyclical Apocalypse: Destruction and Rebirth

Carlos Rojas reads this technophobia in Han Song in relation to the development of, and discourse surrounding, actual train technology as it developed in China within the past few decades. While the official discourse surrounding this technology is hopeful, Han's work conversely highlights the vague sense of danger, inhumanity, and alienation that accompanies the Chinese people's accelerated development as symbolized by this technology. Likewise, Mingwei Song emphasizes the dystopian elements in Han's

2066: Red Star Over America (火星照耀美国:2066年之西行漫记) (2000), "Regenerated Bricks" (再生砖) (2011), and *Subway* (2013, 87–95). These readings are representative of scholarly critiques that see Han's work as being more or less directly critical of China's rosy vision of development.

Han himself acknowledges that his obsession with an 'ordinary' transportation device (as opposed to starships) stems from his view that train transportation epitomizes China's dramatic industrialization and urbanization, and, as he puts it, the fact that "Chinese reality has already surpassed science fiction" (2020a, 274). He specifically references the 2011 Wenzhou train derailment in characterizing *Subway* as a "cautionary tale" about the "hidden dangers" of railway technology (2020a, 275), but he sublimates this particular incident into vague and obfuscated fears of technology in his fiction; for example, the ways in which the subway disaster disrupts the sense of time itself, but also the genetic fear of technology it has seemingly instilled in each successive (yet unknowing) generation, represented by the five stories in the book. By elaborating on motifs of disaster and rebuilding in a cyclical way, he highlights what is already apocalyptic about 'our' own history. In *Subway*, the years of development in which the rail network was built are characterized as a mystifying nightmare: "At the time, the city's subway had just been built. [Old Wang] would sleepwalk into the middle of the streets and witness young people wearing green uniforms hammering large metal nails—bang, bang—into the skulls of kneeling, tied up old men" (Han 2020b, 6).[6] This "sleepwalking" and the violent hammering of nails are referenced repeatedly in the novel. The Chinese expression for sleepwalking literally means 'dream-wandering,' reminiscent of an unending nightmare. The green uniforms likely allude to the People's Liberation Army's construction of Beijing's subway system, but the "hammering of nails" evokes the Cultural Revolution's intergenerational violence and material destruction. In one vignette, destruction and construction, death and revival, are indelibly linked together, setting the tone for successive generations' struggles in their respective worlds.

In each ontologically uncertain new world, Han emphasizes the ongoing apocalypse by depicting destruction alongside rebirth: Death yields grotesque new life. When Xiao Wu and his group of subway explorers return to the surface, they find that S City has been reduced to rubble by an unknown disaster. The atmosphere seems to be comprised of multiplying layers of darkness, and the sun is described as a black sphere in a red sky, imagery that suggests cosmological disruption. At the same time, however, the previously severe pollution plaguing the city seems to have disappeared, and the characters rejoice at being able to breathe without

6 "那时这座城市的地铁才刚刚兴建, 他于梦游中, 走到大街上, 看见一群绿衣绿裤的年轻人, 正把大铁钉砰砰砰挨个打进一排跪着的、被缚的老人的脑门."

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impediment. The narrator conjectures that perhaps the experiment has succeeded and a new world has been created.

On the runaway train of "Surprise Change," the passenger Xiao Ji, who attempts to reach the front of the train by climbing along the outside of it, witnesses a train car full of decaying and dead old men described as "tumor-like" (Han 2020b, 59),[7] as well as a train car full of old women breastfeeding babies. He also witnesses the creation of new life: quasi-amphibians or even insects that have evolved from the original human passengers. Eventually, the evolved insects devour Xiao Ji. In the final story "Ruins," Earth is littered with human remains, yet still teeming with life in the form of tourists from outer space and other mutated species, some perhaps surviving from "Surprise Change." Despite these signs of life, in *Subway* there is no possibility of the protagonists returning to a more familiar existence, no mechanism through which rebuilding and restoration can enact the comforting, redemptive scenarios of so many other post-apocalyptic works. In "Paradise," humans have permanently retreated underground, and they no longer physically resemble us. Earth is a destroyed shell of its former self, inhospitable to humans; meanwhile, species like the subway fungus and even intelligent and telepathic rats are thriving. In "Ruins," the two youthful visitors Wushui and Luzhu turn out to be androids, and Wushui learns that his entire adventure on Earth was a programmed illusion. In the novel's final moments, he "awakens to noth-ingness" (Han 2020b, 272),[8] realizing that he is alone on an empty sea. Not only is this moment evocative of Buddhist enlightenment, the implication that Wushui has experienced it an infinite number of times means that he is truly living a continuing apocalypse with no end point.

Irresolution and Uncertainty in Textual Features and Narrative Voice

Subway's characters, in contrast to the protagonists of triumphant or redemptive narratives, spectacularly lack the agency and resolution required to overcome or rebuild from apocalypse. In "Last Train," Old Wang witnesses alien-like creatures boarding his train and carrying away passengers in large green bottles. He is frozen in fear and unable to inter-vene, as was the case in his 'sleepwalking' years. In "Surprise Change," the passengers are unable to stop the runaway train and are ignorant as to why time has suddenly become hyper-accelerated. In "Symbol," Xiao Wu is a protagonist without memory in a post-industrial futuristic city, which is threatened by an unspecified disaster. These characters are swept along

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in events of a mysterious nature, via uncontrollable transportation devices or because they are led around by a more active character. Taken together, the protagonists' passivity and indecisiveness create a sense of prevailing ontological uncertainty.

On emerging into daylight from the strange occurrences he witnesses on the subway, Old Wang muses, "Is this the monster called 'life' that has swallowed up his entire life? But then, what was that last night? If there are indeed many worlds coexisting, which one is more authentic?" (Han 2020b, 10).[9] Even as extraordinary events unfold, Wang is limited to the role of a passive observer. Though he continually returns to the subway and even goes to the library in search of answers, he is often mired in self-questioning, unable to satisfactorily resolve his concerns. On the runaway train of "Surprise Change," the brave passenger Xiao Ji climbing toward the front of the train witnesses a condensed timeline of evolution and mutation—due to the wormhole that somehow only affects those in the interior of the train—that transforms the train passengers into unrec-ognizable creatures so quickly that communication breaks down: some trapped passengers attempt to write a message for him, but Xiao Ji can no longer interpret the writing. He guesses that the writing dates back to the eleventh to thirteenth centuries' Western Xia period, chronologically distancing himself from the passenger by a millennium. Over the span of several chapters witnessing these incredible changes, Xiao Ji finally arrives at the head of the train, only for the narrator to withhold resolution from the reader:

> After three days and three nights of climbing, he finally arrived at the head of the train, and was greatly surprised by what he saw before him… After who knows how long, the exhausted Xiao Ji finally arrived back at his starting point. At this point, he knew in his heart that no matter how far he had traveled, he was ultimately destined to return. This was precisely his fate as a passenger.[10] (Han 2020b, 73)

The fact that the only passenger willing to seek out the truth is rewarded not with answers, but a sense of resigned acceptance of fate speaks to the novel's pervading interest in the state of *samsara* or limbo. The questioning and uncertainty are only magnified in the later sections, as each of the last three sections feature character pairings where the male char-acter seems to look to the female character for existential assurance only to be abandoned as the story progresses. The female character usually reappears in the narrative after an extended unexplained absence but is altered beyond recognition. The male characters—Xiao Wu, Wuwang, and

9 "这就是那个吞噬了他一辈子的名叫 '生活' 的怪物吗?那么, 昨夜的又是什么呢?如果确有多个世界存在, 哪个比较靠谱一些呢?"
10 "经过三天三夜的攀缘, 他终于来到了车头处。小寂为眼前的情形而大吃一惊 […] 不知过了多久, 疲惫不堪的小寂又爬回了他的出发原点。他此时已打心眼儿里知道, 无论走了多远, 他最终是要回来的。这正是他作为乘客的宿命。"

Wushui—direct their questions, whether aloud or internally, toward their new unreliable and impermanent interlocutors. As Xiao Wu and his female companion Kaka explore the remnants of the subway, Xiao Wu looks to the seemingly knowledgeable Kaka for answers regarding the disappearances of entire subway trains (the runaway trains of "Surprise Change") as well as aviation disasters that have been vaguely alluded to throughout the novel.[11] As their discussion continues, Xiao Wu "begins to feel panic" and ponders upon several unanswered questions: "Was the goal of these experiments to make people feel that it was safe to live in this city? That the disaster wasn't going to destroy them? That there was no need to move to outer space? Was this the goal of the experiment? However, that wasn't necessarily the case" (Han 2020b, 97).[12] Xiao Wu's incessant questions exemplify the fruitless ruminations of Han's male characters throughout *Subway*. In contrast, the female characters are more resolute, but they remain inscrutable to the focalized male characters. They also usually eventually transform into non-human creatures, or are revealed to not be human in the first place which is a markable a contrast to the male characters, who are either human or at least retain a humanoid appearance, as is the case with Wushui as an android. After a period of separation, Xiao Wu is reunited with a woman he thinks is Kaka, but he is unsure. Despite the text characterizing the new Kaka as a creature who "coos" and "chirps," and emits a "reptilian stench," Xiao Wu persists in directing his questions toward her, but does not obtain definite answers regarding her identity (Han 2020b, 172).[13] In Han's depiction, the human condition is defined, counterintuitively, by both continuity and instability. Although the novel's protagonists do not comprehend the dramatic changes and destruction to which they bear witness, these events—including the end of the known world and its rebirth—persist.

In *Subway*, a few punctuation marks feature prominently: the question mark, the ellipsis, and the slash. These marks integrate a lack of certainty into the text itself, syntactically and semantically. We have seen how Han utilizes the question mark to foreground the male characters' uncertainty through unending, anxious questioning. Han also uses the ellipsis liberally, often to mark the period between a character's question and his sudden realization or awareness. But it is an awareness that only leads to more questions, as in Old Wang's thoughts as he suddenly feels uncertain about his usual subway stop at the very beginning of the novel: "Well then, after retirement, would he still take the subway? At least he probably wouldn't have the chance to take the last train again......Oh, when people die, do they still take the train? An emotion resembling regret began to burn in his chest" (Han 2020b, 3).[14] Old Wang's ruminative, anxious, questioning

11 Han's "The Passengers and the Creator" (2006) is about an aviation disaster with very similar themes: an unending journey and passengers who forget their origins.
12 "顿时惶恐起来"; "难道实验最终是要让人们觉得生活在这个城市是安全的吗?就不会被那场灾难毁灭了吗?就不用太空移民了吗?这就是实验的目的吗?然而, 也不一定吧。"
13 "叽叽咕咕"; "鸣叫"; "爬行动物一般的臭气。"
14 "那么, 退休以后, 还会坐地铁吗?至少末班地铁怕是没有机会坐了……哦, 人死后, 还会坐吗?一层仿若遗憾的情绪, 在胸腑间焚烧。"

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thoughts at the story's outset set the tone for the entire story, as ellipses pepper the narrative. While some of them perform the standard function of suggesting omission of time or information, the frequency with which they intrude in characters' thoughts signals an overall lack of decisiveness or understanding. In these prolonged moments of indecision, the spaces between feeling, thought, and speech become fraught with ambiguity.

Even the narrative voice—conventionally a voice of authority—is itself inf(l)ected by this type of questioning. This voice is far from omniscient, further emphasizing the ontological uncertainty that pervades the text. In "Symbol," Xiao Wu and his band of travelers finally emerge from the vast subterranean system into S City, which they had supposedly left just a few days ago. What they find is a city in ruins where, paradoxically, transportation devices seem to have been made anew by the subway fungus. The group happens upon what is initially characterized, without qualification, as an engine car; indeed, one of the cars that mysteriously vanished many years ago. A child in the group even excitedly and familiarly climbs onto the conductor's seat and plays at driving the train. However, the group finds that the engine car is full of unfamiliar electronic devices. One of the characters, known only as the Reporter, revises his initial hypothesis: "Looks like it's not the subway, but the newest jumbo jet, the one we've been dreaming about—oh, no, it's a new spaceship! I'm guessing this is a wonderful success from the experiment" (Han 2020b, 120–21).[15] Because no one in the group actually knows what a spaceship looks like, thenceforth the narrator also simply calls this transportation device a "train car/plane/spaceship" (Han 2020b, 131) with no attempt to decide on one name or another.[16] In a fictional world where the characters demonstrate endless uncertainty, where their physical surroundings and temporal setting are constantly changing, one might normally look to the narrator for a sense of order—descriptive or summative signposts, perhaps, that assure the reader that all of this is heading toward a satisfying conclusion. Even that is lacking in *Subway*, as shown in the novel's concluding sentences:

> Wushui saw millions of white, human bones, blossoming like fresh flowers in a commercial on the boundless blood-red sea.
> All was silent.
> He turned his head to look at the rat, but found that there was nothing at all (Han 2020b, 272).[17]

This final "apocalypse" (where millions are dead) carries an air of finality, yet there is still a surviving witness in the form of Wushui. If, as the leader of the "foreign race" that sent him suggests, Wushui's consciousness can

15 "看样子不是地铁啊，而是一架最新研制出来的、我们梦想已久的大飞机，哦，不，一艘新型宇宙飞船哩。这也是实验的伟大成果吧。"
16 "机车/飞机/飞船。"
17 "雾水就看到，在一望无际的血红色海面，像广告上的鲜花一样，绽放出了一万具白色的的、人类的尸骨。万籁俱寂。
他又转身去看身边的老鼠，发现什么也不存在。"

simply be rebooted and forced to experience the same events over and over again in search of an answer, then this apocalypse will truly be an ongoing one.

Samsara and Han Song's Critique of Development

Fan Ni has similarly highlighted technophobia in *Subway* and what she calls "psychophysical numbness" (as opposed to irresolution) in Subway's characters, citing this de-embodiment (of mind from body) as evidence of posthuman transformation which has occurred as a result of technological developments (2020, 27). For Ni, this posthumanism is not a positive outcome, and instead a sign of "ecological degradation and species extinction" (2020, 39). While I have identified similar characteristics in Han's work, I see his preoccupation with religion, especially Buddhism, as an equally important component of his apocalyptic worlds. Gilmore has called attention to the relationship between the commonplace apocalypse scenario and Christian eschatology, explaining that it is often a way to provide transformation and redemption. By contrast, Han Song's worldview can be understood in terms of the Buddhist concepts of *dukkha* and *samsara*, which are pain and endless wandering respectively. Characters in his stories usually have no path to enlightenment, and are trapped in an endless cycle of reincarnation—one that offers no salvation, as opposed to the rebirth through Jesus Christ in Christian messianism for example. In *Subway* specifically, there are hints that the five similarly weak and irresolute male characters may be genealogically linked, but Han also explicitly describes them in terms of the same character archetype. In each section of the novel, each of these fictional characters is 'born' in a sense into successive worlds of suffering, unfruitful knowledge-seeking, and ultimately aimless wandering. As Old Wang returns to the subway entrance again and again, looking for answers, Zhou Xing is trapped on a runaway subway train without knowing why. Xiao Wu walks the streets of S City day after day with no memories of his life prior to this activity, and the android Wushui is programmed to repeatedly relive his simulated trip to Earth.

In a nod to different theological conceptions of the universe, a grotesque version of Jesus Christ also recurs frequently in *Subway*. Several of the main characters possess or happen upon rusting crucifixes, the meaning of which they do not understand. Nonetheless, the symbol provokes in them an unsettling animosity. In "Paradise," Wuwang happens upon an underground church in the decaying subway where mutated humans

worship a Jesus statue. In "Ruins," even the androids Wushui and Luzhu stumble upon a site where Buddhist statues are carved into the cliff wall, and a cliff-sized Buddha statue, in which Wushui detects a bizarre resemblance with himself. These religious symbols, like most other enigmatic symbols in this universe, provide no answers for its inhabitants, much less spiritual solace.

In conjunction, it is part of *Subway*'s worldview that alongside the diminished or lost significance of religious symbols is the fact that capitalist symbols—a ubiquitous Coca-Cola logo (called "the C beverage" in the text) and a strangely feminine version of Hong Kong movie star Chow Yun-Fat, whose swaggering film characters by some scholars' reckoning represent both the freedom and chaos of late-1990s Hong Kong capitalism (Williams 1996; Hoover and Stokes 1998)—are elevated to a place of greater importance or even deified. Some of the novel's characters conjecture that the conglomerate represented by these capitalist symbols is responsible for the reckless experiments that have transformed both the subway and the world around them. However, true to the nature of *Subway*, definitive answers are not forthcoming, and the characters are powerless to effect change in this fallen world where only indecipherable symbols remain.

Though Han's work does not always amount to a capitalist or developmental critique—he does not go as far in his postscript to *Subway*—that is how he is often interpreted (Rojas 2018; Sun 2021). While *Subway* may be too cryptic for a definitive interpretation, another one of Han Song's short stories, "Star Tide: The Builders" (星潮:建设者) (2009), sheds more light on how the author views the cyclical relationship between apocalyptic destruction and development. "Star Tide" describes a distant future where the human race has successfully expanded into the far reaches of space, but in doing so brings with them the familiar drama of exploitation and heedless expansion. As with many of Han's stories, behavior and morality manage to affect the physical form itself: humanity has evolved into two distinct races, the "Planetarians" and the "Builders," that know only stereotypes about one another. Only those who are too old or weak to leave remain on Earth. Planetarians are described as being driven by an imminent threat to the entire universe, and they travel almost compulsively from one planet to another, using them up as they migrate. However, they are entirely reliant on the builders to create suitable conditions for habitation. The Planetarians' sole purpose is to contemplate the life and death of the universe, while they see the Builders as merely suppliers of the materials necessary to achieve their goals. The Builders, living on crowded starships, race from planet to planet, competing fiercely for

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building jobs. Losing a bid can mean starvation, or worse, violent conflict among themselves.

Eventually, this version of the universe is destroyed by large-scale warfare that inevitably breaks out among the Builders due to resource scarcity. As warfare spreads, the Planetarians successfully find a way to escape the dying universe, leaving the Builders without a second thought. Destruction and reconstruction feed one another in an endless cycle, on a planetary scale unimaginable to us today. In contrast to the moody ambiguity of *Subway*, we can see more clearly in this story how the constant building-up and tearing-down of planet-sized dwelling spaces, as well as the Builders' exploitative conditions, resemble ruthless corporations' destruction of habitats all over the world in the name of profit. The demands of development and expansion are continually creating apocalypses for habitats and communities all over our world today.

Han Song returns frequently to other such allegories of "continuously unfolding" apocalypse in his work: In addition to "Star Tide," the theme appears in his *Red Star over America: 2066* (火星照耀美国:2066年之西行漫记) (2000), "The Passengers and the Creator" (乘客与创造者) (2006), "Regenerated Bricks" (2011), and "Black Rain" (黑雨) (2011). Scholars have widely discussed "Regenerated Bricks" (Ban Wang 2022; Song 2015; Judy 2022), a story inspired by the 2008 Sichuan earthquake, where human remains are literally recycled into bricks, becoming a foundational resource for outer space colonies. Even in this story, the end (in the form of the earthquake) is also a grotesque beginning, and the ghostly whispers that emanate from the material are a reminder of the ways in which mindless development can entrap souls in *samsara*. The ultimate irony is that they—and the living loved ones that are haunted—are not reborn,[18] and cannot move forward into new lives.

Conclusion: Crisis as Opportunity for Ecological Reimagination

Subway—and much of Han Song's work—is enigmatic, inviting a host of interpretations. Unlike contemporary writers who imagine various causes of apocalypse, Han shows no interest in assigning blame. Instead, he gravitates toward representing existential crisis that reveals the human condition as unflattering yet enduring. His work asks us to consider, how would humanity be able to survive in the face of great destruction? Extrapolating from real social conditions—the expansion of infrastructure, and the pursuit of development that causes great environmental harm—Han Song

18 The original Chinese title can be more accurately translated as "rebirth" or "reborn" (*zaisheng*), however I am adopting the title translation popularized by Mingwei Song (2013).

situates them within the context of a totally destructive and incomprehensible apocalypse, faced by each of the characters in the five stories.

Han's work is unique in contemporary Chinese SF — and even in many works about facing the challenge of apocalypse — in that, although humanity has to contend with ongoing destruction and certain doom, humans have the opportunity to survive if they can humbly accept their new place in the universe. Therefore, I interpret Han's work as dark but not necessarily entirely bleak. In *Subway*, technological development as symbolized by the speeds and heights of the high-speed train and the passenger plane has created posthuman species, and worlds that are utterly different from the one that we inhabit now. As Han imagines, we may eventually invite this fate with our ongoing pace of development. However, in these worlds, humans, animals, and technology persist alike in previously unimagined forms, and indeed through endless cycles of rebirth. His view of our relationship with technology is thus unique: it is not simply that we use it, nor that it uses us. Instead, humans and their technology are unpredictably amalgamated and live on as part of a natural order that nurtures life, no matter what form it takes. If survival is possible in such a scenario of ongoing apocalypse, perhaps we can envision living differently now.

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Adam Stock   Desert Settings and
How to See the
Apocalypse

Abstract: Deserts have long been
treated as apocalyptic spaces in cultural narratives. This is especially true
of science fiction (SF), a genre which, throughout its historical develop-
ment, has both narrated and critiqued colonialism. This article investigates
deserts as apocalyptic settings in some American and Australian SF texts
within the context of colonial and Indigenous beliefs and knowledges. I read
the apocalyptic as a technique of seeing in relation to desert settings. I
treat 'setting' as a formal, necessary precondition for narrative develop-
ment, organising visual fields and producing agential environments.

   I then examine literary and filmic examples of SF desert settings with var-
ied dominant perspectives: George Miller's *Mad Max 2* (1981) meditates on
settler colonial anxieties in its treatment of the Australian desert as a sym-
bolically rich yet materially empty arid 'wasteland,' eliding Indigenous oc-
cupation. A similar perspective emerges via Denis Villeneuve's penchant for
using aerial photography to present post-Romantic sublime desert views in
Dune (2021) and *Dune: Part Two* (2024), since desert aerial photography
has a specific colonial history dating back to WWI. Frank Herbert's *Dune*
(1965) (Villeneuve's source text) instead privileges the more postcolonial
view *from below* of the "Fremen." Finally, Claire G. Coleman's (2017) *Terra
Nullius* is an anticolonial text which shifts between perspectives from above
and below. The novel's radical narrative rupture halfway through re-orients
the reader's understanding of the text's apocalyptic framework in relation
to Indigenous history. Coleman shows how the apocalyptic can be mobilised
as a technique of seeing to critique historical injustice in desert SF settings.

Introduction[1]

Deserts have a history of use as apocalyptic settings dating back to some of the earliest apocalyptic texts, but during the rise of European colonialism this relationship became notably more significant. The secular apocalypses of (post)colonial twentieth and twenty-first century science fiction have therefore built on a long cultural history of treating deserts as objects of visual knowledge when deploying tropes like post-nuclear wastelands, hostile arid planets, and alien wildernesses. In the colonial cultural history of 'seeing' deserts and the material history of colonialism alike, deserts appear and are treated as empty, ruined spaces. This is reinforced in the dominant imagery of accelerating climate change (Koch 2021, 38), in which aridity, parched soil, and desertification serve as metonyms for planetary disaster. As (post)colonial objects of visual knowledge in an era of rapid climate change, how we 'see' desert environments reflects the broader ways in which perspective, orientation, and emotion are involved in shaping aesthetic judgements and our relationships with knowledge.

In this article I argue that in desert SF settings the apocalyptic functions as a technique of seeing, one of importance to both environmental and postcolonial concerns. As a genre intwined with both the history of imperialism and its critique (Csicsery-Ronay 2015, 15; Kerslake 2007), science fiction is exceptionally well placed to reveal the stakes in colonial and Indigenous beliefs about desert environments. In other words, examination of SF desert settings can make visible the contours of some of the central cultural anxieties of late capitalism, relating to both postcolonialism and climate collapse.

I begin by unpacking the relationship between perspective, seeing, and knowing. I position the apocalyptic as a specific spatial and temporal orientation which we can regard as a technique of seeing. I then discuss 'setting' as a literary and filmic concept. In the twentieth century, the cultural reproduction of desert settings as symbolically rich and materially empty surfaces was important to colonial narratives in new popular genres like SF. For example, the film franchise *Mad Max* directed by George Miller employs an apocalyptic futurity in which how a desert is seen is revealing of colonial settler anxieties about Australia, and broader concerns about access to raw materials in Cold War late capitalism. This is most clearly

seen in *Mad Max 2* (1981), in which white, oil-extracting heroes defend the last enclaves of civilisation from barbarian hordes who are visually coded in both Orientalist and Indigenous ways (Robertson 2018, 70–73). Sandwiched between the independently financed low-budget *Mad Max* (1979) and the Hollywood big-budget *Mad Max III: Beyond Thunderdome* (1985)*, Mad Max 2* places the barbarism of societal breakdown in Australia, with its specific history of racial capitalism, into a global historical context.

I then move to comparative discussion of Frank Herbert's 1965 novel *Dune* and its recent two-part adaptation by Denis Villeneuve (2021; 2024). Looking at the literary source text alongside the Hollywood film reveals how the idea of landscape is encoded in the shot choices and mise-en-scène of the movies, and in literary descriptions rich in imagery in the novel. In turn, the presentation of desert landscapes is an important means by which colonial/native relations are figured. While the desert sublime is present in both the novel and the films, the novel handles visual knowledge of the desert planet in a more critical manner, distinguishing between the perspectives of key characters that partly reflects its context in the era of postwar decolonisation. The dominant view the desert from above in wide-angled aerial shots in Villeneuve's films echoes the colonial project of aerial domination of the deserts of the Middle East in the interwar period, of which Herbert is more critical.

To provide an anticolonial perspective on how a desert is seen by its inhabitants in apocalyptic SF, I turn to Noongar author Claire G. Coleman's novel *Terra Nullius* (first published 2017), in which a radical shift in narratorial perspective produces the Australian interior as an apocalyptic setting. Formal features of the tropes I have identified, such as camera angles and framing on screen, and imagery in written prose, can teach us much about the power relations and ideological implications of vantage points, orientations and techniques of seeing. I conclude that the apocalyptic functions as a technique of seeing in desert set SF which reveals important differences in colonial and Indigenous beliefs. While colonial approaches foreground aerial domination to treat deserts as symbolically rich and materially empty, texts such as Coleman's show us that as a speculative technique of seeing the apocalyptic also has potential to engender creative ruptures and radical shifts in perspectives.

1. Seeing and Knowing

To read the apocalyptic as a technique of seeing in the context of colonial and Indigenous representations of deserts requires understanding how

perspective, orientation, and subjectivity shape sight as a site of knowledge production. In western thought, against Kant's attempt to conceive judgements of beauty as disinterested, Nietzsche argues both knowledge and aesthetic judgements require emotional engagement and self-reflexive thought: "There is only a seeing from a perspective, only a 'knowing' from a perspective" he declares (Nietzsche 2013, 84). Affective relations condition how we form knowledge and judgements from seeing via interpretation. For Nietzsche, "the *more* emotions we express concerning a thing, the *more* eyes, different eyes, we train on the same thing" the closer "objectivity" becomes (ibid), suggesting knowledge is above all a matter of social determination.

In *Queer Phenomenology* (2006), Sara Ahmed shows how "Orientations shape not only how we inhabit space, but how we apprehend this world of shared inhabitance, as well as 'who' or 'what' we direct our energy toward" (2006, 3). She stresses that embodied experience (such as racialisation and indigeneity) and orientation (such as in sexuality) shape how some subjects are socially accorded more space and importance, while a queer or racialised subject can be marginalised or else "made socially present as a deviant" (Ahmed 2006, 20). Orientations shape how we inhabit pre-existing social conditions, Ahmed argues, which, in turn, also shape our orientations (for example, the language we use to identify how socially visible or legible we make markers of gender or sexual orientation and, indeed, to whom). As I show below, an orientation in SF which sees through the lens of the apocalyptic is one concerned with how economic, political, and environmental upheavals which are in process can combine to radically alter planetary conditions, whether for specific groups or for (human and non-human) life writ large. For example, the affective nature of orientation shapes political responses to climate breakdown as a material process which we see in both extreme weather events and longer-term trends (such as average sea temperature rise).

Subjectivity is therefore important in organising and orienting lines of sight, affecting how different *places* and types of space are perceived. This is especially relevant to how deserts are viewed and represented in culture. In western colonial history such spaces have been frequently gendered as feminine, and coded as dangerous, exotic, barbaric and 'Other.' Simultaneously, and often in tension with this, deserts have often been (re)presented as ruined, barren, exhausted, and empty. Yet according to Diana Davis (2016, 175), "deserts and drylands cover some 40–45% of our world and support about 38% of our population."[2] As I show below, cultures indigenous to arid lands do not typically view their homes in such negative light. The colonial gaze which has long operated to dominate

2 There is no simple definition of drylands and deserts accepted globally by geologists and meteorologists. The "aridity index (AI)" is one common but not sufficient marker, defined as the "ratio of precipitation (P) to potential evapotranspiration (PET): AI = P/PET." No single metric can capture the astonishingly varied terrains, temperatures, and precipitation rates of drylands (Welland 2015, 23–24).

arid lands is grounded in western ideas about perspective, orientation, aesthetic judgement, and knowledge production.

Tropes and generic frameworks in literature and film are important to the reproduction of this gaze since, as John Berger states in his book and documentary series, *Ways of Seeing,* "a large part of seeing depends upon habit and convention" (1972, 16). There are multiple techniques by which we learn to see, such as following the line of a pointed finger toward a distant object. In this context, Berger notes the use of perspective in the Western art tradition is unique in making "the single [beholder's] eye the centre of the visible world" (1972, 16). This tradition focuses on the individual experience of the art image. Channelling Walter Benjamin's 1936 essay "The Work of Art in the Age of Mechanical Reproduction," Berger argues the camera transformed our understanding of post-Renaissance Western art so that we no longer imagine such a "centre" at all. Where the oil painting captures a moment or state the movie camera can capture movement and process so that the art image becomes transportable, fragmented, and in motion.

While Benjamin is concerned with the ideological consequences of popular consumption of cinema surpassing that of novels, cinema was deeply imbricated with changes in literature too: early twentieth-century modernist literature, like film, was frequently concerned with formal experimentation, new techniques to represent daily life (such as the montage) and drawing attention to the act of representation, by estranging the reader from typical (literary) habits and conventions. Like literature, film captures space as something produced through a durational process. While the written word cannot create atmosphere from light and darkness in quite the same way as the magic lantern of cinema, both mediums are capable of enchantment, bringing the fantastic and speculative to life.

2. Setting

Hannah Freed-Thall and Dora Zhang (2018) describe the literary device of setting as "the condition of possibility for representation, the *schema of perception* that makes it possible for events and actions to emerge as such" (my emphasis). Setting is not mere scenery or stage, nor a passive background or surface on which events occur. It contributes to mood and style. Settings orientate readers. By combining spatial and temporal features, settings are essential to establishing genre and thereby plot and character conventions. Like genre, where and when a story is set can determine narrative structure. Setting, as Freed-Thall and Zhang put it,

appears "at once spatial and temporal, infrastructural and atmospheric." (2018) It is not just 'the seen,' but something of an agential environment.

There is a moment in Berger's documentary where he quotes Dziga Vertov's 1923 written work "WE: variant of a manifesto,"[3] reading it over Vertov's 1927 film *Man with a Movie Camera*:

> I'm an eye. A mechanical eye. I, the machine, show you a world the way only I can see it. I free myself for today and forever from human immobility. I'm in constant movement.
> […]
> Freed from the boundaries of time and space[.] […] My way leads towards the creation of a fresh perception of the world. Thus I explain in a new way the world unknown to you.

The camera's "mechanical eye" overcomes human subjectivity by moving rapidly between individual perspectives, creating a perspective irreducible to a single viewpoint. Notably, *Man with a Movie Camera* frequently breaks the fourth wall to demonstrate how a film is spliced together in the cutting room, and how cameras are set up to achieve specific effects, such as by being mounted on a pick-up truck or a railroad track. By making visible the illusions by which film captures movement Vertov highlights the 'setting up' of the urban setting of his exploration of the rhythms of every day urban life. Louise Hornby (2018) argues the medium of film foregrounds and makes visible *air* through the play of light and darkness with which it works as its basic components, and thus "*Man with a Movie Camera* embraces the cinematic landscape of the cloud, smoke, and steam from its opening shots." Particulates both obscure and illuminate the movement of camera and objects. The "fresh perception" of "the world unknown to you" which, for Vertov, the camera-eye offers is one of both movement and its traces: the billows of smoke and wisps of fog, the tracks of tyres and wind-blown sand.

In a physical sense then, setting—and especially the 'setting up' of setting—is important to *how* we see a space in narrative terms. In the western imagination, conditioned by a long cultural history of treating deserts as wastelands and wildernesses (Di Palma 2014; Davis 2016), establishing a desert setting brings with it a set of well-established tropes, images, and ideas. For Michael Welland, "the landscapes of the desert are, in themselves, characters in literature, cinema and the visual arts" (2015, 180). These uncompromising environments are treated as places to test a protagonist's endurance and ability to survive without easy access to water, food, and shelter. David Lean's film *Lawrence of Arabia* (1962) can

3 The source of Berger's translation re-produced here is unclear. It differs slightly from Vertov (1984, 17–18).

serve here as an archetypal example, as the desert itself is both antagonist and love interest for Lawrence. Frequent wide-angle shots of lone figures among sand dunes in otherwise empty landscapes attest to the vastness and alien nature of Arabian deserts and, by extension, desert inhabitants. When Lawrence leads a band of fighters in a test of endurance across the Nefud desert, it is described by a local as "the worst place in the world." Lawrence is captivated by the landscape though, as Feisal recognises in their first meeting, telling him:

> I think you are another of these desert-loving Englishmen –
> [he walks away]
> Doughty, Stanhope, Gordon of Khartoum (Bolt 1962, 26).

Feisal links Lawrence's desert obsession to those of nineteenth-century imperial adventurers. Although intended critically, Lawrence understands this as acknowledging his 'civilised' strength of character. Such strength is revealed through his relationship with the barbarous desert setting. The film highlights his inner turmoil about the violence he participates in during WWI and the necessity of killing, including his execution of a Bedu friend to prevent internecine violence spreading among tribes he wants to unite. Lawrence 'endures' his role as much for love of the desert as for the Arabs whose interests he claims to intuit.

In a science fiction context, Gerald Gaylard notes that Frank Herbert's novel *Dune* ([1965] 2006) and its sequels are directly influenced by Lawrence, betraying "a worrying imperialism that relies on audience ignorance to disguise its sf orientalism" (Gaylard 2010, 25). For example, Herbert relies on an uncritical use of Arabic as Arakkis's Indigenous language. Nevertheless, Gaylard still finds *Dune* "a work of messianic and apocalyptic anti-imperialism" (32). Crucially, the planet Arrakis in the novels is not *just* a backdrop for a fight between good and evil/Atreides and Harkonnen. Herbert engaged extensively with the ambivalent complexities of postwar decolonisation, especially the Algerian struggle for independence, achieved three years prior to *Dune's* publication (Hadadi 2021).[4] Yet, as I discuss below, Denis Villeneuve's two-part filmic adaptation of Herbert's first *Dune* novel (2021; 2024) is less subtle and self-reflexive, suffering from what one journalist termed a "veneer of cultural non-specificity" (Hadadi 2021). In Villeneuve's films the apparent 'emptiness' and 'desolate' nature of the desert setting serves principally as a psycho-geographic purpose for the white western male protagonist, in which the hostile desert environment is principally a means to grapple with inner conflict rather than socio-political issues. Here the colonial gaze extends the male gaze (Mul-

4 Even after independence in 1962, France continued to use two sites in the Algerian Sahara to conduct nuclear explosions until 1966 (Henni 2022, 14–15).

vey 1975, 11) as a culturally distinctive and learned way of seeing, drawing together a way of looking at landscape with a way of looking at certain types of bodies.[5] Both, however, seek to command and dominate space. In this psychoanalytic equation the desert is a blank space demanding to be read and *known*; an empty receptacle for the writer's projections as well as an object brimming with pre-existing tropes and symbolic meaning.

At the nexus of the relationship between perspective and setting, SF and deserts, this Janus-faced view of desert terrains treats them as both symbolically rich and materially empty 'surfaces.' Where the surface view is penetrated it is usually to extract raw materials such as oil. As Nathalie Koch shows, by the 1890s, "American popular culture was densely populated with romantic Biblical and Orientalist narratives linking the deserts of the US and the Middle East" (2022, 70). Such narratives were important in the advance of settler colonisation. Koch tracks how they prepared the way for considerable investment in establishing Arabian crops like dates in Arizona, using agriculture to settle and occupy land, dispossessing and at times waging genocidal war against nations including the Diné, Apache, Zuni and Pima. Symbolically, "colonization was made friendlier by conceiving of it as a pilgrimage, an act of return. By directly linking to the familiar visions of Middle Eastern deserts that fill the Bible, the American deserts could start to feel more familiar too" (Koch 2022, 28). Using Orientalist, Biblical symbolism, this narrative wrote the Indigenous populations out of the landscape, so that it could be treated as materially empty, the backdrop to envision the future development of the American national project.

An important means by which this narrative spread and became a cultural norm was via new reading practices. The late nineteenth century saw "new cheap magazine formats that force[d] formal innovation, and dr[o]ve the invention of modern genre categories like detective or spy fiction as well as SF" (Luckhurst 2005, 16). Deserts, including the Moon and Mars, were frequent settings for early science fictional narratives (sometimes known as 'scientific romances' or 'scientific fiction') along with Westerns and the 'railroad genre' which grew rapidly in popularity via the "pulp" magazine industry, in titles that were "quickly produced, containing fiction about quick and exciting living, quickly written in language meant to be quickly read" (Earle 2009, 129). Cinematic perspectives on deserts in American culture therefore drew on and further filled an expanding and popular reservoir of pre-existing imagery from other cultural forms, conditioning how audiences saw desert settings. During imperialist expansion across the arid southwest the tropes, symbols, and generic conventions of popular genres like SF helped to reproduce the desert as a space intimately connected to imaginative and speculative ways of seeing, becom-

5 Anticipating Mulvey, John Berger writes in his essay on "the nude" as a way of seeing in western art, "*men act* and *women appear*. Men look at women. Women watch themselves being looked at" (1972, 47).

ing what Aiden Tynan, citing Nietzsche, refers to as a "speculative topography" (2020, 1). SF can therefore show us how deserts as specific types of environment or habitat are related to dominant cultural ideas about the apocalyptic.

3. Apocalypse as Technique of Seeing

Definitions of the term 'apocalypse' that reference etymology (e.g. Collins 2004, xiii; James Berger 1999, 26; Walls 2008, 12) tend to point out the revelatory nature of apocalyptic upheaval: apocalypse is distinguished from disaster, catastrophe and cataclysm because it unveils or reveals some new form of understanding about the shape of what has come before, even as it destructively transforms. This is especially important when considering the apocalyptic in historical terms in relation to the experience of colonialism. Nathalie Koch (2022, 173) argues that "defining when and where the apocalypse occurs is an act of power" for desert empire building since such definitions allow western scientists to present themselves as "visionaries" and "colonial hero[es]," to "more easily sell their own solutions to engineer Earth and humanity out of its predicament" (in other words, a science fictional form of imperialism). However, to describe the experience of colonial dispossession as apocalyptic is also rhetorically powerful. Adam Spry (2020, 55) contends "it has become cliché to describe Native people as postapocalyptic" and cites an example of "apocalyptic rhetoric" from Potawatomi orator Simon Pokagon delivered in 1893. Writing in *Apocalyptica,* Bren Ram (2020, 98) cites Martin Munro's *Tropical Apocalypse* (2015) as making a similar argument in the postcolonial context of the Caribbean. The apocalyptic in such cases describes an orientation toward histories: narratives that make some kind of assimilable sense of great upheavals and catastrophic violence. The explanatory power of apocalypse lies in such transfigurations (see Baghdadi, Marno, and Riedl 2018).

Culturally, as a form of generic narrative, "Apocalyptic art may represent an imagined future, but it acts in and upon the present" (Hurley and Sinykin 2018, 451). Historical narrativizing, in other words, is always implicated in the production of such stories. When apocalyptic narratives project forwards to an imagined future or events yet to occur, they typically reveal something about the contemporary moment or era. I suggest that as a technique of seeing the apocalyptic creates an estranging temporal lens. If the secular apocalyptic accords with Darko Suvin's (1972, 375) definitional criterion for science fiction of "cognitive estrangement"

(a making strange of *how* we understand)[6] it does so by allowing a picture to emerge of how one (apocalyptic) event or period fits within a larger prospect of history or the historical.

An estranging apocalyptic lens shows how images can conceal as much as they reveal and this is how, as Vertov puts it, they can contain "the world unknown to you." Yet "the world unknown" is not *a new world*; rather, in Evan Calder Williams words, "[w]hat is revealed is what has been hidden in plain sight all along" (2011, 5). As a technique of seeing, the apocalyptic performs a role in setting such things within a field of intelligibility. It is, in Williams' words, "the unseen — but unhidden" (2011, 6). Perhaps Vertov's claim that the "eye" of the camera is "freed from the boundaries of space and time" is imprecise then. The camera reveals the interlinked and co-constituting nature of time and space, each formed in relation to the other: [7] the apocalyptic is thus a technique of seeing in relation to setting. Post-production techniques can additionally reconfigure arrangements of time and space other than would ordinarily be experienced by the individual in everyday life. For example, from early in the history of cinema new narrative techniques like the montage transformed the experience of space-time in non-naturalistic ways.

The montage sequence at the opening of George Miller's *Mad Max 2* (1981) uses a combination of archive footage and sequences from the franchise's first instalment. Miller, a filmmaker whose use of intertextual film references is a hallmark of his work, seemingly pays homage to Vertov here by superimposing rotary machine movements over shots of the fabric of the urban everyday, echoing *Man with a Movie Camera*. But whereas Vertov sings a paean to machines and the proletariat who perform with them the dance of everyday Soviet life, Miller's exposition reads technology as precipitating the Fall: war-machines and images of violence predominate. The sequence thereby reveals a key problem for the whole *Mad Max* series: the films are most famous for their high-Octane extended road chase scenes featuring breathtaking stunts. They are ur-texts for the "Australian road movie [...] defined by masculine fantasy and property destruction" (Wagner 2019, 4), in which speed on the open road and domination of the landscape, contribute to what Chavez and Sriram term a "testosterone-fueled wasteland mythology" (2023, 21). A classic of the 'Ozploitation' genre, *Mad Max 2* was once labelled "the quintessential Australian movie" (Tranter 2003, 68 as cited in in Wagner 2019, 3). Yet the opening montage exhibits awareness of the unsustainability of the world system of late capitalist extractivism too, since its premise is that global imperial ambitions in the age of techno-industrial military complexes make apocalyptic events increasingly likely.

6 For Suvin SF requires the presence and interaction of cognitive estrangement and a *novum*: something qualitatively new which does not exist in the author's empirical environment. Critic and SF author Adam Roberts (2019) has more recently stressed "the novum itself is so often a kind of reified or externalised embodiment of the *formal* logic of the metaphor" (8) and "if I say the point of SF is transport and you think *rapture*, well, conceivably you're closer to seeing the genre the way I do" (9).

7 For Doreen Massey, space is "the product of interrelations" predicated on "contemporaneous plurality" and is "always under construction [...] it is never finished; never closed," suggesting "a simultaneity of stories-so-far" (2005, 9). 'Setting' in my reading shares these features and is distinguished from the broader term 'space' by virtue of being both a formal device and precondition for narrative (as distinct from 'story' in the narratological sense). Setting requires a telling.

This central tension in the *Mad Max* story world became more pronounced as the franchise grew in budget and eventually shifted from Australian production to Hollywood for *Mad Max Beyond Thunderdome*. At a formal level, the tension is reflected in the prevailing camera angles of road scenes: the first movie uses cameras mounted in fixed positions or on tripods by the roadside (especially for stunts) and fixed to the cars themselves. To get close to the road many chase scenes are filmed from a wheel-height camera fixed on a moving vehicle. While an important consideration here is the low production budget, the result is to foreground the thrilling experience of speed. Later, bigger budget productions of the franchise use crane and helicopter aerial shots. These perspectives emphasise domination over the desert terrain. Similarly, the first film uses small town locations and sees the threat of violent attacks against the person begin in classic horror locations such as the junkyard, the woods and a remote farmhouse.[8] In later films, action takes place exclusively in the wilderness of the desert and violence, including intimate forms like rape, have become weaponised in service of wider conflicts around territorialisation and claims to sovereignty. The desert is no longer simply a place to experience the thrill of unencumbered speed; it is now a site of extraction and necropolitical (Mbembe 2019) power.

In *Mad Max 2*, the near-future apocalyptic desert setting requires recouperation of images of historical events. Modern history from within lived memory is re-shaped by seeing it as 'another time,' a different age from the imagined viewer's own. Images of mid-twentieth century turmoil such as catastrophic destruction in World War II, atomic explosions, the 1956 Soviet invasion of Hungary, police violence against protestors, and Vietnam are repurposed for a narrative suggesting apocalypse is 'immanent' rather than 'imminent': as John Hay states of American culture, "[w]e are no longer expecting but actually inhabiting the apocalypse," so that "[r]eality outruns apprehension as we experience and endure rather than await and anticipate the end of the world" (Hay 2020, 9). The voiceover then shifts from (re-)describing the past to describing the story world's future setting using superimposed images from the first *Mad Max* film. In addition to altering the causality and sequence of empirical history, this effectively re-interprets the first film by adding context where there was no "future history" (Stock 2016) presented at all, no mention of the collapse of the global economy or World War III. *Mad Max* is essentially a revenge thriller concerned with masculinity, violence, and law and order, set "in a near future marked by social disorder rather than full breakdown" (Miller 2024). At the start of *Mad Max 2*, to stitch the timelines of the films together requires the first film to be recouped into a new narrative genre.

8 According to Martyn Conterio, in "press interviews at the time, Miller specifically talked up Mad Max as a horror film." Conterio further notes how the film derives "gothic moods from its decayed vision of the world, set amidst haunting landscapes" (Conterio 2019, 10) yet completely unlike other films made during the 1970s Australian New Wave, George Miller's directorial debut is a singular piece of action cinema, one that had a major cultural impact and spawned a movie icon in Max Rockatansky (played by Mel Gibson.

The apocalyptic becomes here a way of re-viewing, a means to provide new interpretation, a way of reframing knowledge via historical rupture.

The desert environment is central to the apocalyptic setting in the *Mad Max* story world, and key to the series' "oil fiction" status (Balkan and Nandi 2021, 6). In *Mad Max 2* this is most obvious, since the story concerns a fortress built around an oil well on a desert plain. The fortress is besieged by bikers wanting fuel. Max is drawn into helping the besieged group escape by driving their tanker (unbeknown to him it is a decoy). They sabotage the well behind themselves. The group finally escape with enough barrels of hidden fuel to get across the continent in search of civilisation, leaving Max behind.

Max first spies the fortress through binoculars from a nearby rocky outcrop. Unseen from below, he witnesses the crew of The Humongous—black leather-clad barbarians who oppose the re-establishment of national order (at one point The Humongous is even given the Orientalist moniker "the Ayatollah of Rock n Rolla")—violently attack scouts from the fortress (all dressed in white and light colours, none-too-subtly recalling popular depictions of Medieval Crusader Christians). What Chavez and Sriram term the "popular exotification of indigeneity" in the film thus sees "surviving wastelanders of 'Maxtralia' exist within a newly constructed indigenous culture" (2023, 23). In other words, the long cultural history of Orientalism is overlaid onto a different desert setting, in which white oil-extracting Australians become the newly Indigenous population of the Australian Outback, and as Paul Robertson notes, the film thus presents "racially indistinct yet Indian-coded 'savages' as a violent threat to attempts at reforming a devastated western civilization" (2018, 69). The mapping of Orientalist ideas of the desert onto Australia has a long literary history, since as Robyn Weaver (2011, 46) points out, some nineteenth-century Europeans arriving in Australia based their ideas of the desert interior on their understanding of the deserts of Southwest Asia and North Africa (SWANA). This is complicated by the fact that the shift from Orient to Outback occurs via the American Western genre, to which the film belongs in addition to being an example of apocalyptic SF (Robertson 2018, 68–69). The layering of geographies and genres serves to romanticise distinct histories of imperialism.

Max, a former cop, surveys the landscape from his outcrop, and with Max (when he raises a telescope to his eye the shot cuts to a view through its lens) the audience comes to understand his power derives in significant part from what he knows from sitting unseen in an elevated position. From on high he sees and he knows, and, by extension, so does the audience. Having been introduced by voiceover as "the road warrior," the

audience already understands Max's intervention will be decisive in tipping the balance of power between these groups. The battle ostensibly between 'good' and 'evil' (west and east, imperium and barbarian) here is merely one for control and distribution of resources however: all agree on the fundamental view that the desert is a wasteland, just an empty surface and a site of extraction. Focalised through Max, the desert is depicted as neither beautiful nor sublime. Indeed, unlike some adversaries later in the film series, Max, a character it is difficult to accuse of three-dimensionality, lacks any faculty for aesthetic judgement or romantic imagination.

4. Desert Vistas

A very different perspective on the desert vista is presented in Denis Villeneuve's two-part adaptation of Frank Herbert's novel *Dune*. In its labyrinthine plot, Duke Leito Atreides, his consort Jessica (a Bene Gesserit witch) and their son Paul are commanded by the galactic Emperor to assume control of desert planet Arrakis. House Harkonnen, secretly in league with the Emperor, attack them. Leito is killed, while Paul and Jessica escape into the desert, where native Fremen take them in. Paul eventually becomes their messianic leader, Jessica their Reverend Mother. They overthrow the Harkonnens and Paul forces the visiting Emperor to cede to him the throne. Villeneuve's films mostly follow this basic plot arc but do not develop a sense of depth in Fremen culture.

There is a straight line from the history of landscape painting to Villeneuve's presentation of the desert planet of Arrakis. In Martin Lefebrve's words, "the birth of landscape [painting] should really be understood as the birth of a way of seeing, the birth of a gaze (that of the painter, the collector, or the critic) by which what was once in the margin has now come to take its place at the centre" (2006, 27). In Romantic images such as Casper David Friedrich's famous *Wanderer above a Sea of Fog* (1818) the lone white male spectator commands the view of an awe-inspiring nature from which he stands apart. 'Nature' is here positioned as absolute Other. The viewer, who is at the centre of the visible world in Berger's terms, is placed behind the wanderer (a position known in German as a *Rückenfigur*), whose job is to orient and direct their sight. Such painted figures are part of a chain of viewing in which the expression of the subjective feelings of the painter are elevated. This is not a painting of a view but a painting about *how an individual feels*, alone, in front of such a view. As David W. Jackson notes, such images not only represent the sublime spatially, as a confrontation with a "rather frightening and otherworldly" land-

scape, but as a window onto the distant past, in which the "untouched wilderness" can be imaginatively construed as unchanged since the original Creation (2020, 243–44 passim).

We encounter a similar perspective through Paul's (Timothée Chalamet's) experiences on Arrakis in *Dune*, and especially *Dune: Part Two*. Through the tight focalisation on Chalamet via frequent close-ups we are invited to identify with his view of Arrakis. Paul's emotional journey, his inner turmoil at knowing the violence his leadership will cause and his love for Chani (Zendaya), are far more important than Arrakean geo-politics in these films. Despite the centrality of spice as an analogue for oil in the narrative (highlighted when arch-villain Vladimir Harkonnen bathes in thick black oil), these movies offer little critical reflection on the political implication of spice extraction as analogue for our own fossil fuel energy dependencies. Moreover, Paul is depicted as a white saviour who feels guilty for his use of the Fremen, but a saviour nonetheless without whom the Fremen would be doomed. The sight of Paul riding the Shai-Halud (a 400-meter-long sandworm) in the second film becomes a spectacular visual centre point of the movie, a thrilling CGI desert ride not so different after all from the impossible feats of Miller's Mad Max, clambering around fast-moving oil rigs on the desert highway.

By contrast, in Frank Herbert's original 1965 novel there is a clear sense that perspective matters in relation to the desert *and its inhabitants*, as evident in the different ways Duke Leto Atreides and his son Paul see Arrakis as desert. Not long after arriving as its new colonial ruler, the duke looks out from the parapet of the landing control tower and the view is focalised through his eyes: "The central wastelands beyond those moon-frosted cliffs were desert—barren rock, dunes, and blowing dust, an uncharted dry wilderness with here and there along its rim and perhaps scattered through it, knots of Fremen" (Herbert 2006, 97–98). Like Max in Miller's film, the duke encounters the desert from an elevated position, as a landscape which is barren, arid and timeless. The view represents something unknown, judged presumptively as a 'wilderness' which is nearly empty except for 'knots' of mysterious and primitive Natives. The duke experiences the desert vista as undifferentiated, insensible, and majestic; in short, as a sublime object.

When Paul and Jessica are cast into the desert, however (echoing Hagar and her illegitimate son Ishmael in Genesis 21:14), they find beauty there:

> Paul stepped out into the rim of the basin, whispered: 'what a beautiful place.'

> Jessica could only stare in silent agreement from her position a step behind him[.] [...]
> This basin's beauty filled her senses, forcing her to stop and admire it.
> 'Like a fairyland,' Paul whispered.
> Jessica nodded.
> Spreading away in front of her stretched desert growth—bushes, cacti, tiny clumps of leaves—all trembling in the moonlight. The ringwalls were dark to her left, moonfrosted on her right.
> 'This must be a Freman place,' Paul said (Herbert 2006, 311).

Importantly, this passage is focalised through Jessica, who follows Paul's sightline from behind as if he were a *Rückenfigur* in a painting. But the view is not sublime or ancient. The features of the basin are garden-like, suggesting form and intent in the nurturing of desert plant growth. Although otherworldly, it has a strong sense of meaningful inhabitation, somewhere of "felt value" (Tuan 2001, 4). In contrast to his father's colonising perspective, for Paul the desert opens to reveal nesting places, villages, subtly varied sand types and wide-ranging topographical features. Significantly, Paul takes as his battle name *Maud'dib*—the desert mouse—an animal whose perspective is from *below* rather than *above* the dunes.[9]

5. Deserts from Above

The difference between the dominant desert perspectives in Herbert and Villeneuve's texts fundamentally marks the attitude in each toward both colonial/Indigenous relations and the apocalyptic. Villeneuve naturalises the Harkonnen perspective (from above) to critique their domination of the planet using military methods. In one telling shot in *Dune: Part Two*, "ornithopters" fly against the dawn light, referencing the famous "Ride of the Valkyries" scene in Francis Ford Coppola's *Apocalypse Now* (1979), in which the US Air Force massacres a seaside village using helicopter gunships (Coppola 2019). This intertextual reference clearly labels the attack as imperialist violence. But across the two films, the overwhelming use of wide-angled aerial shots of the desert privileges the imperialist perspective over the voice of the native on the receiving end of such "unsound methods", much like *Apocalypse Now* (and indeed its own literary source text, Joseph Conrad's *Heart of Darkness* (1902)).

Herbert's novel is also largely focalised through Paul, but free indirect discourse adds layers of ambiguity to the character, while the perspective from below is more central than in the films. Moreover, Paul has a differ-

9 Significant to Herbert's decolonial context, as outlined above, the first French atomic bomb detonated in Algeria in 1960 was "codenamed Gerboise Bleue (Blue Jerboa) after a tiny jumping desert rodent" (Henni 2022, 15).

ent dialectical critique of the balance of power on the planet. He tells his old combat teacher Gurney that thanks to the guerilla campaign he and the Fremen have waged, Vladimir Harkonnen now has "little enough air cover left that he can waste it looking for a few specks in the sand" (Herbert 2006, 478). The Harkonnens are limited by *only* being able to see the desert from above, from "ornithopters" in the skies or huge spice harvesting machines. They dominate the skies but cannot use this to their full advantage against guerrillas adept at camouflaging themselves and their *sietches* (underground communities). In Paul's conversation with Gurney his comment pointedly contrasts the Harkonnen's perspective with that of the Fremen who have just ridden away on a sandworm. The Fremen possess what Paul terms "desert power... The surface of this planet is ours. No storm nor creature nor condition can stop us" (2006, 478).[10] The difference between how Villeneuve visually presents the desert of Arrakis and the way Herbert describes this terrain in his novel thus reveals a fundamental difference in *how* each text sees the desert with regards colonial/Indigenous relations and the apocalyptic.

The battle between air power and "desert power" is one of both perspective and knowledge. It has a long colonial history, beginning with the first use of aeroplanes in warfare during and immediately after World War I. Here the British experience in Mesopotamia is instructive. After an embarrassing setback at Kuk in 1916, the British Indian army forced the Ottoman Empire out of the country in 1918. The turnaround required considerable investment in Iraqi infrastructure to aid supply lines and the movement of troops, in what Priya Satia describes as "an effort to stake out the land of two rivers as a material object" (2007, 213). The eventual success of the campaign led to a shift away from the view of "Arabia" as "a kind of extraterrestrial utopia happily impervious to modern technology and government" toward a desire to "make [...] a new kind of utopia, a resurrected Babylonia" (Satia 2011, 24). The great cradle of civilisation became a "proving ground for industry and empire" (Satia 2007, 225) to conduct modern nation building and development. At the centre of this mission was the airplane, "the linchpin of British efforts to at once develop and police Iraq" (Satia 2011, 24). The airplane produced an aerial view of the landscape, requiring it to be read and understood in a qualitatively new manner.

Writing about the post-Revolutionary Russian experience, Julia Chan describes how "the invention of vertical aerial photography in 1909 [...] seriously disrupted the ways in which an area could be surveyed, measured, or governed. Often, with its radical abstraction, foreshortening, and elimination of human figures, the vertical aerial photograph was simply

[10] In *Dune* (2021) Villeneuve gives Duke Leito the line "that's desert power," losing this difference in perspective between father and son.

illegible" (Chan 2022). Far from being an 'objective' record of the ground's 'condition,' the aerial photograph taken at a specific moment required skill and comparison with existing maps to reveal "an event", proving "that we always see from some *when*" (Saint-Amour 2014, 121). For the Soviets, the airplane promised to collapse distances between modern cities and undeveloped villages, but it also revealed just how uneven development in Russia was. In Iraq, air power seemed to allow the British to step back from the Orientalist fantasy they were living: "Only by abstracting themselves from the sandstorms and mysterious Arab cultures and landscape could the British truly make sense of things and begin to understand how to go about exercising control over the territory even if, in their hearts, many never left the embrace of the ground" (Adey, Whitehead, and Williams 2014, 14). Here too, just as in Chan's description of a flight in Yevgeny Zamyatin's dystopian novel *We* (1924) "The temporal linear form of historical progress turns out to be a three-dimensional plane where multiple temporalities coexist and interact" (Chan). In emphasising how Mesopotamia was othered as an otherworldly space outside of time for the British ("a biblical space […] of elemental clashes between good and evil out of the realm of ordinary, mortal law" (Satia 2006, 40), and "an environmental imaginary, [which] was positively *extraterrestrial*" (Satia 2011, 26–27 emphasis added)), Satia reveals how, bedazzled by an Orientalist view of Arabia which tied it to a distant past and fantastic genres like fantasy and the 'scientific romance', the British turned to a new perspective from the air to attempt to control the native population using surveillance and military violence. "Entire villages were bombed for "general recalcitrance"—refusal to submit to government—and for harbouring wanted rebel leaders, providing the lessons of an emerging science of bombing" (Satia 2006, 35). So it was that "[a]ircraft […] provided the security of imagined omniscience to an empire in the throes of rebellion" (Satia 2006, 32), demonstrating, in Adey, Whitehead and Williams (2014, 3) words, "[a]s an interface of science, ways of seeing and militarism, there are few perspectives more culpable in their enlistment into practices of war, violence and security than the aerial one."

6. Deserts from Below

There is something always-already apocalyptic about 'death from above' via aerial, colonial dominance, since part of the point of such dominance is that the imagined omniscience of the aircraft is apparent to both killer and victim. Such death is intended to require of its victims an acceptance

of helplessness against an overwhelming and unreachable necropolitical power which derives from the aircraft's panoptical logic. Yet the development of the militarised view from the air also led to an emerging body of knowledge about how to resist such ways of seeing, since the very distance that the aerial view imposes obliterates detail. This makes it hard to discern the orientation of those below toward their own positive political goals rather than simply being intransigently against colonial rule.

An excellent example of the importance of such orientations to perspectives on the apocalyptic experience of colonial invasion can be found in Noongar author Claire G. Coleman's novel *Terra Nullius*. In it, characters hide from alien "fliers" which traverse the skies above the Australian interior, putting under surveillance the Natives below. Coleman's novel presents an apparently historical fiction in which Indigenous character Jacky Jerramungup escapes from forced servitude and returns to the abusive residential convent school where he grew up to search for documents that will reveal his family roots. He is pursued by colonial police toward the "deep desert" country where he was born. In a separate narrative strand, colonial trooper Johnny Starr runs away from his unit to join Native bandits after his troop massacres a camp of Native people. They die together fighting colonial troopers during a massacre of Indigenous refugees.

Colonial settlers like Starr experience an "alien landscape" (22) which is "too hot and too dry" (3), with "alien trees […] the wrong colour" (72) dotting the "alien, Native bush" (100). Starr is "trying, always trying to see" his surroundings as his Native friends do, because "if he could appreciate the beauty" of "this hot dry desert," then "his life would be more pleasant" (85). As Iva Polak (2022, 5) notes, this image of "Australia's relentless and unforgiving landscape and climate in comparison to the "mother country" […] is one of the clichés of the nineteenth-century Australian literary canon." Weaver describes how the "European imagination delineated an apocalyptic map of the country before explorers and settlers even arrived" (2011, 24) and through its material history as a British convict transportation colony, the *land* of Australia came to be associated with disorder, punishment, and culturally unassimilable conditions. Hence Starr cannot get past a deep, sensate experience in which "[e]verything was alien: the people around him, the trees, the prickling grasses, even the soil and rock itself" (101). Just as the British, in Satia's view, experienced the Iraqi desert as "extraterrestrial" (2011, 24; 27), Starr is repeatedly described as seeing the land *and its people* in alien terms. For other colonisers, Natives are seen as "merely part of the inhospitable environment they are trying to tame" (Coleman 2019, 140; cf. Mitchell 2002a, 265) and are treated with the same visceral disgust. It is therefore a transformational moment

when Starr refers to, "this creature, this Native, this person—he surprised himself with the word" (62). But while Starr becomes an anti-colonial ally (which has its historical analogue in several, albeit rare, collaborations between "Indigenous and European opponents of the colonial regime" (Sparrow 2022)), he continues to experience the land as otherworldly.

Subjectivity, orientation, and perspective shape how the Australian desert is seen and known in the text, and the perspective of the colonised, grounded in an Indigenous cosmology, is distinct from Starr's own here. As a settler, Starr must distinguish Natives from their homelands to perceive them as 'people' in the sense of human subjects. However, by assimilating Natives within the universalising framework of western liberal humanism, he re-produces colonial logic. As Indigenous legal scholar Irene Watson argues, sovereign individual rights arrive at the expense of collective frameworks such as "laws, knowledges and philosophies" (2014, 513). The individual person has rights only insofar as she gives up her non-western subjectivity as part of a collective, whose cosmology and knowledges are deemed illegitimate by ocular-centric positivism. At the heart of this schism are the "[d]istinct differences [which] exist between an Aboriginal relationship to land where the natural world is loved and treated as a close relative and that found in European philosophy which views nature as being there for man to use" (Watson 2014, 510). This relationship—which has its specific local iterations—is often referred to as *Country*. "This relational system is more than human, including plants, animals, rocks, and Ancestral Spiritual entities. Relationships of care between people and *Country* are reciprocal" involving "environmental care practices" and "[s]piritual care," with "*Story*-telling" a key part (McGaw et al. 2024, 27). Country thus helps produce people as subjects and is integral to personhood, an aspect of Native cosmogeny Coleman's colonial character cannot grasp. Starr relates to the novel's desert setting in a fundamentally different way to Indigenous characters like Jacky: Starr has no emotional connection to the desert, which he sees as an environment to be endured and to struggle through. By contrast, despite being torn from his family and placed in a residential school early in life, Jacky has an implicit understanding of Country as fundamental to 'being.' He evades trackers and is alert to the agency of his non-sensate world.

Coleman's novel is about how a shift in perspective can fundamentally alter our way of seeing history and human/other-than-human relations. It demonstrates Berger's point that seeing is dependent "upon habit and convention," affecting the relative importance of foreground and background alike. In Coleman's novel, Australia is textually produced as a postapocalyptic colonial space. As the perspective through which the narrative

is focalised shifts back and forth between colonised and coloniser characters, Coleman plays on our expectations: *Terra Nullius* appears to tell "a story of Australia's colonial crime that could fit into a genre broadly identified as historical crime fiction" (Polak 2022, 4). With what Polak terms "a sudden ontological shift in chapter 10," nearly halfway through the novel, the setting is revealed to be the year 2041. This revelation of a speculative future requires the reader to immediately reassess the genre and the apocalyptic nature of the text due to the radical shift in the temporal perspective of the narrative. By radically unsettling the genre, readers are forced to re-view the past from the perspective of the colonised, since the colonisers or "Toads" literally *are* aliens from a swampy planet. They view all humans in the historical attitudes Europeans held toward Indigenous Australians, denying their full humanity. In this speculative future, the European/settler reader is invited to identify with the colonised, since the "arrival of the Toads had eliminated all racism and hate within the human species [...] the colonisation by the Settlers simply ended all discrimination within the human race by taking away all the imbalance" (Coleman 2019, 159). This simple apocalyptic revelation has deceptively complex results. The Australian interior is heralded elegiacally as one of the last places on Earth that resisted the advance of European colonisation. World-ending at a local level is thereby identified with planetary upheaval, and as Laura Singeot shows, "the narration is permeated with changes of scale from the local to the global" (2021, 5), destabilising the sense of perspective in this desert setting, since the humans in the desert are both Indigenous and European, but Indigenous culture has proved far more resilient than European culture in the face of alien invasion.

Like *Dune*, Coleman's novel is an inter-planetary invasion narrative that focuses on the experiences and cultural and political goals of the Native population. These goals are specific to both geography and the forms of colonialism they are resisting. The humans in *Terra Nullius* seek to drive out the Toads who have settled on their land and return to a pre-invasion status. Like the real-life analogues to which many Aboriginal children were sent in twentieth-century Australia, the residential school in *Terra Nullius* is perpetrating epistemicide, preventing the handing down of cultural knowledge and practices including Indigenous languages. In Herbert's *Dune*, the Harkonnen also have genocidal designs on Fremen culture but much of the population is beyond their reach, and the former are occupying forces who came to extract resources, rather than settlers.

The Fremen, meanwhile, have their own highly developed, planetary ideas about Arrakis which entail a transformation of the physical environment at the expense of imperial designs on it as a site of primary resource

extraction. Fremen culture, meanwhile, already bears the influences of outsiders including the Bene Gesserit. The Fremen are prepared for Paul's arrival thanks to "the protective legends implanted in these people against the day of a Bene Gesserit's need" (71). This turn of phrase is pointedly invasive, suggesting intrusive thoughts, and yet a certain openness remains in Fremen ideals: they believe with religious intensity in the scientific programme of the Emperor's planetary ecologist, whose father "Native," having "calculated with precision" how much water needed to be stored in underground reservoirs to "change the face of Arrakis" to create a "homeworld" for the Fremen, "with lakes in the temperate zones" (368). In Jessica's view, *this is the scientist's dream…and these simple people, these peasants, are filled with it*" (368). But if the Fremen have been prepared by the seeding of myths, then Jessica, too, has been prepared by her training to read the Fremen through this condescending lens. She believes the planet's arid state is an aberration that can be corrected via terraforming, a mindset as dismissive of Native agency as that of the Toads in *Terra Nullius*. Only much later when she undergoes the initiation to become Reverand Mother does she gain a better perspective by experiencing the shared knowledge of past Reverand Mothers. By contrast, Paul is accepted as a tribal member, having learned the language, cultural values, and undergone initiation rites of the Fremen. He does not remain an outsider ally like Johnny Starr.

Conclusion

This article has interrogated the relationship of desert settings to apocalyptic imaginaries in SF. I have used the term 'setting' to designate a formal (aesthetic) property and a precondition for the development of narrative. Setting thereby brings together the ocular-centrality of SF knowledge production and aesthetic judgement. As an agential component of narrative, settings are an ideological formation. They operate in relation to perspective, orientation, and emotional connections to space and place.

I have sought to balance the tension between treating deserts as a type of literary science fictional setting and avoid reproducing colonial categories of 'empty' or 'ruined' 'wasteland,' which flatten the relations of desert inhabitants to their geographically specific homelands. This is important, since in Istvan Csicsery-Ronay's words, "science fiction has been the main carrier of techno-imperial dreaming, as well as a main vehicle for its critique" (2015, 15). In the apocalyptic imagination of *Mad Max 2*, which offers superficial critiques of elements of environmental destruc-

tion such as oil dependency and consumer waste, the desert setting follows a colonial logic in which the arid 'wasteland' becomes a metonym for the collapse of civilisation. Such desert spaces are positioned as morally and aesthetically ruined, empty and antithetical to civilised life. They are thereby made available for colonial appropriation (see Welland 2015, 15–16). From a colonial view, which locates the (western, white male) beholder at the centre of the image, the symbolically rich, materially empty desert represents a valuable opportunity to develop imperial dreams. Hence, in interwar Mesopotamia the British built dams and roads while dropping bombs as two sides of the same 'civilising' mission.

In Villeneuve's two-part *Dune*, elevated views of the vast desert planet of Arrakis position it as a sublime object: incomprehensibly majestic, terrifyingly alien in its hostile conditions, and overwhelming in scope. But, as W. J. T. Mitchell writes of landscape painting, "landscape" here "naturalizes a cultural and social construction," thereby "representing an artificial world" (and created in the VFX studio as much as by the cinematographer) "as if it were simply given and inevitable, and it also makes that representation operational by interpellating its beholder in some more or less determinate relation to its givenness as sight and site" (Mitchell 2002b, 2). Thus, this presentation of a fictional desert planet rests upon and reproduces dominant western ideas about 'deserts' as a broad and undifferentiated category. This is reinforced by the filmmakers' decision to engage so little with Arab culture and casting (Hadadi 2021) despite significant portions of both films being shot in Abu Dhabi and Jordan.

Frank Herbert's novel derives significant inspiration from SWANA cultures, and, while it sometimes slips into Orientalist thinking, Herbert also interrogates western viewpoints. The patient, planet shaping desires of the Fremen work with rather than against geological forces, using native plant life as well as water precipitated from moisture already in the atmosphere. The Fremen, whose culture is grounded in the aridity of their environment, commit to leaving a significant portion of Arrakis untouched to enable a sustainable relationship with spice as a replenishable resource, respecting the original state of Arrakis as a 'desert planet.' However, both the terraforming plan and the revolutionary overthrow of the colonising powers are apocalyptic in the millenarian sense. This is ultimately why Paul rises to be their leader. His prophetic trajectory fits with a presentation of a desert setting that relies on a technique of seeing I have identified with the apocalyptic. In setting up the desert setting of the novel Herbert defamiliarizes both cognition of our own planet and our understanding of the machinations of global politics and economic models. The novel thus uses the apocalyptic to explore cultural anxieties and future-oriented

fears including nuclear weapons, the world's reliance on 'big oil' and political tensions in the Middle East during the Cold War.

Claire Coleman's novel *Terra Nullius* continues this trend, going further than Herbert's novel by positioning itself as explicitly *anticolonial* rather than merely *postcolonial*. Robyn Weaver suggests "there is an inherent relationship between "apocalypse and nation […] in Australian fictions" (2011, 52). The arid interior is an important setting for this connection, its apparent quiet echoing what W. E. H. Stanner famously termed "the Great Australian Silence" (Stanner 1979, 203; 208–16) about Aboriginal history, occupation, and rights in Australia's specific history of settler colonialism. As in Herbert's *Dune*, the deep desert of Coleman's Australia becomes a refuge from colonial dominance and a site of resistance by virtue of its hostility to European standards of temperate comfort, which require a different way of seeing to survive. Here there are sufficient margins for life in the reciprocal relationship of Indigenous people and Country, but insufficient resources for wasteful colonial living.

The invaders identify the Indigenous characters with the flora and fauna of a hostile environment. This accords with the historically dominant European imaginaries of arid lands, which treats deserts as a distant sublime object of the Romantic imagination, the 'lone and level sands' to be crossed and thus conquered by the male explorer, Miller's "road warrior" or the Laurentian religious saviour. Via a radical narratological rupture, shifting to a postapocalyptic Indigenous perspective halfway through her novel, Coleman re-orients the reader, pointing them along an alternate view of past and present cultural anxieties and future-oriented fears. This functions as a way of seeing and reading alternative futurities, and of raising questions of historical injustice. By shifting perspective, the apocalyptic becomes not just a matter of 'world ending' but of asking about what narrative functions and possibilities 'the world' and 'the end' present, and for whom.

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Saman Mahdevar "The Wonderful Apathy
of the Oriental": Famine,
War, and Apocalypse in
Early Modern Iran

Abstract: Famine and the sword
are central symbols of total destruction in the apocalyptic literature of
Judaism, Christianity, Zoroastrianism, and Islam. This symbolic framework
also shaped early modern interpretations of natural disasters and wartime
devastation. This paper examines how apocalyptic beliefs influenced the
interpretation of famine and war in nineteenth- and twentieth-century
Iran. While historians have extensively documented these crises, the re-
ligious and cultural transformations that accompanied them remain un-
derexplored. Moreover, the concept of apocalypse in Islam—particularly
within the Shi'ite tradition—has received limited scholarly attention. In
Qajar Iran, a period marked by frequent famine, conflict, and epidemic dis-
ease, apocalyptic thinking flourished. Crises were increasingly interpreted
through religious archetypes and cosmic narratives. Drawing on under-
studied sources such as memoirs, laments, marginalia, and visual repre-
sentations, this study demonstrates how apocalyptic discourse provided
a framework for comprehending catastrophe and imagining redemption
through destruction. Using a phenomenological-hermeneutic approach, the
paper treats apocalyptic symbolism as a dynamic form of religious inter-
pretation, emphasizing the interplay between cosmic upheaval (*qiyāmah*)
and personal transformation through tribulation (*balā*). The portrayal of
famine and war as apocalyptic events entails a confrontation with exis-
tential questions about the self and its place in divine order. It invests the
natural world with theological agency, presenting famine and disaster as
expressions of divine intervention and internal moral decay. Apocalyptic

discourse, in this context, not only critiques existing theodicies but also destabilizes Qajar political theology, which sought to legitimize hierarchical authority through claims to divine favor and historical continuity.

Keywords: apocalypse, famine, war, Iran, eschatology.

Introduction

For those who endure mass suffering caused by drought, hunger, and thirst, nature may come to signify the absence, wrath, or imminent arrival of a just God; or, alternatively the presence of malevolent deities. In apocalyptic literature, however, catastrophe is described as the "Day of God." Famine (the 'white death') and war (the 'red death') are often depicted as manifestations of divine wrath and as harbingers of the end of the world—or the dawn of a new creation—across the apocalyptic traditions of Judaism, Zoroastrianism, Christianity, and Islam.

Yet, this symbolism is not confined to the so-called 'elementary' forms of religion. Believers are often expected to interpret signs in their world and read them in relation to eschatological expectations. Famine and war continue to symbolize the disruption of natural cycles and the collapse of human order. They carry with them warnings of an impending end. They represent two modalities of apocalypse: one emerging from below, through human transgression; the other descending from above, as divine judgment. Whether seen as the nihilistic self-destruction of humankind, the collective suffering of the divine, or a stage in the universe's final transformation, this duality reflects an enduring tension between divine will and human evil. What, then, do famine and war signify for communities that engage apocalyptic literature as a lens for interpreting their own historical crises?

In nineteenth- and early twentieth-century Qajar Iran—a period marked by repeated famines, wars, and epidemics—this question acquired particular urgency.[1] Two contrasting depictions of famine in this era illustrate how suffering could be interpreted: A British Army officer who witnessed the Great Persian Famine remarked: "Nobody could endure such scenes if he were not endowed with *the wonderful apathy of the Oriental*: It is the will of God! So, the people die, and no one makes any effort to help" (Dunsterville 2012, 80). Yet, the painter Hossein Behzad complicates this perception of apathy. In his work *The Famine of 1295/1916 in Iran* (Figure 1), Behzad places himself in the foreground as a witness to the devastation. His drawing portrays famine as chaos. The emaciated bodies

[1]   The Great Persian Famines of the twentieth century are considered one of the most tragic events in the early modern economic and social history of Iran. Valentine Chirol, a British journalist, observed at the beginning of the twentieth century: "Hardly a year passes without famine in some province of Persia" (Chirol 1903, 97). These famines resulted not only from drought, but also from military operations and disruptions in agricultural and food distribution systems. Accounts found in memoirs and historical books provide vivid descriptions of the famines that plagued Persia in the nineteenth and twentieth centuries, with the best documented case being the Great Famine of 1288/1871-72. These historical records paint a grim picture of desperation, with people resorting to eating weeds, skeletal remains, bones, and even unburied corpses, which were left to be devoured by scavenging dogs in the streets (see Planhol 1998). Among the most horrifying accounts are those of cannibalism and the killing of children (Smith 1876, 361).
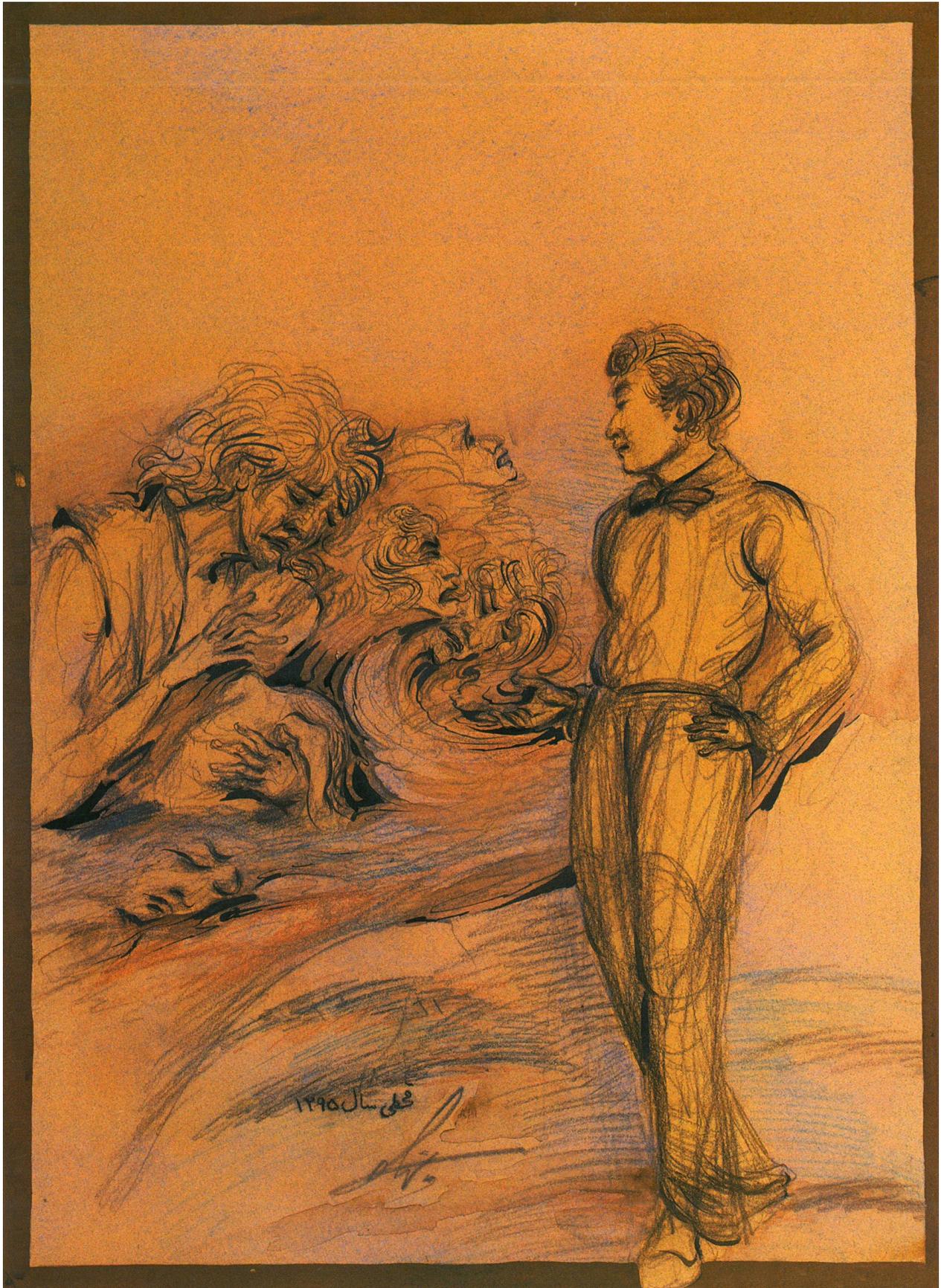
Figure 1. Hussein Behzad, The Famine of 1916 (1916), Maestro Behzad Museum.

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of the victims, stripped of clothing and dignity, convey not only physical suffering but a spiritual and cosmic crisis. What the British officer saw as apathy, Behzad might have seen as apocalypse. The wider religious and political implications of this apocalyptic self-understanding in early modern Iran remain largely unexplored, as does the concept of apocalypse in Islam itself. This article does not aim to engage in theological debates or reassess historical findings concerning the Great Persian Famines, nor does it seek to develop a comprehensive eschatological framework. Historians have documented the economic impact of famine and war in this period, but the cultural and religious transformations they unleashed remain understudied.[2]

Abbas Amanat's *Apocalyptic Islam and Iranian Shiʿism* (2009) provides a foundational starting point. He sheds light on a popular apocalyptic sentiment persisted beneath the surface of authoritative political theology, having its roots in the ancient cultural and religious heritage of the region (Amanat 2009, 50). Whereas Amanat focuses on prominent theologians and state institutions, this study shifts the lens to lesser-known clerics and the broader religious imagination of the period. It examines how apocalyptic frames shaped not only popular interpretations of famine and war, but also the theological foundations of political authority in early modern Iran.

Divine Wrath and Messianic Hope

Religious communities in Qajar Iran frequently drew upon Islamic sources to interpret the 'signs' of famine and social upheaval. To uncover the mythic dimensions of such modern discourse, one must explore the ancient associations of the symbolic. This study, therefore, cannot be confined to Islamic sources alone. The fabric of Islamic apocalypticism itself is interwoven with Zoroastrian, Jewish, and Christian components. Across biblical, Zoroastrian, and Islamic apocalyptic traditions, the dual motifs of 'sword and famine' consistently reveal a shared symbolic grammar of divine wrath and eschatological hope. *Jeremiah* 14:15, *Ezekiel* 5:17, and *Lamentations* 4:9 depict famine and sword as divine curses, culminating in the apocalyptic narrative of the Four Horsemen in *Revelation* 6:1–8. [3] There, the horsemen are empowered to kill "by sword, famine, plague, and wild beasts of the earth." In the Zoroastrian *Ayādgār ī Jāmāspīg*, the last millennium of Zoroaster is marked by great plague, famine, black snow, red hailstones, and devastating war. Particularly, it envisions a bloodshed so vast that "of mankind one part in three parts will not survive" (Modi

2 For example, see the article "The Social and Economic Impact of Cholera in the Qajar Period" (Nategh 1978).

3 The formula is reiterated fourteen times throughout Jeremiah. Likewise, in Exodus 5:3, Moses and Aaron express apprehension about divine punishment, fearing that Yahweh "may strike us with plagues or with the sword" (The Holy Bible: New International Version). Similarly, in Deuteronomy 32:23–24, the Song of Moses portrays God's judgment through images of wasting famine, consuming pestilence, and deadly plague. The same duality appears in 2 Samuel 24:13, where David faces a choice between famine, fleeing from enemies, and plague as forms of divine retribution.

1903, 34–36). Islamic apocalyptic literature, known as *al-Malāḥim wa al-Fitan*, encompasses a broad spectrum of extraordinary celestial events, terrestrial upheavals, social turmoil, and the emergence of the Dajjāl ("the deceiver," also known as the Antichrist). Famine, hardship, sword, and plague constitute the central apocalyptic signs (*malāḥim*), with the great famine said to originate in the East, accompanied by a tower of fire and widespread war—likely alluding to the uprising and massacre led by al-Sufyānī, a foreboding figure in Shiite eschatology. Like the Zoroastrian myth, only one-third of humanity survives these catastrophes, heralding the dawn of a new world (Algar 1993). This duality is further emphasized in the narrative that "the Mahdī will not come until one-third have died and one-third are killed" (b. Ṭāwūs 1991, 58). Muḥammad al-Bāqir similarly characterizes the apocalypse as a "time of fear and terror," marked by "a sword among the Arabs" and a hunger so severe that people will long for death (al-Nuʿmānī 1997, 337–38). To the apocalyptic imagination, these signs are not confined to the past or to prophecy but resonate as present realities in times of social and political turmoil.

Alongside war and famine, apocalyptic texts sometimes expand the catalogue of signs to include plague, wild beasts, black snow, and red hailstones. At first glance, the motif of war may seem incongruent with the rest of the apocalyptic signs, since war originates in human will, whereas natural disasters appear beyond human control. This ambiguity extends to the diverse and sometimes contradictory answers that apocalyptic literature offers to the question of whether the destruction is inherently evil, ordained by God, or a natural consequence of human sin. It sets the stage for the interpretive frameworks of apocalyptic literature.

Apocalyptic sources could be classified into two broad strata: historical and metahistorical-mythical.[4] On the one hand, apocalyptic texts can be read as *ex eventu* interpretations of historical catastrophes, retrospectively framed as prophetic. This perspective is implied when Domenico Agostini and Samuel Thrope interpret the Zoroastrian *Bundahišn* (Primal Creation) as a form of consolation in the face of the collapse of the Sasanian Empire. Similarly, Sara Kipfer relates the dichotomy of famine and sword in the Hebrew Bible to gendered experiences of destruction: famine reflects internal, feminine-associated suffering within the city, while the sword represents external, masculine death in warfare (Agostini and Thrope 2020; Kipfer 2023, 85). A defining feature of the historical stratum is that eschatological imagination becomes a fertile ground for political and religious thought, particularly in military and imperial contexts (for more examples, see Alexander 2022; Shoemaker 2018).

[4] For example, see Cook (2002); Cereti (1995, 26)

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On the other hand, the mythical stratum may be understood as an existential mode of relating to the world and the divine. Regarding famine and the sword, Sara Kipfer identifies two linguistic patterns in the Hebrew scriptures: lamentations and supplications, which emphasize human suffering, and penitential prayers — especially common in the post-exilic period — that frame famine and war as divine punishment for collective guilt (Kipfer 2023, 106). In this sense, sword and famine function as a bridge between human agency and divine will, endowing catastrophe with theological meaning, either as a consequence of sin or as stages toward a final historical transformation.

Islamic apocalypticism is closely associated with natural disasters, wars, and celestial phenomena — referred to by the Qur'anic term "Portents of the Hour" (*ashrāṭ al-sāʿa*). The messianic appearance of the Twelfth Imam, Mahdī (b. 869) is also foreshadowed by catastrophic events known as the signs (*ʿalāmāt*) of his advent (*ẓuhūr*) (Amir-Moezzi 2008). Famines in Iran, often occurring amidst political disorder, are thus portrayed through this religious lens. In a Shiʿite narrative (*hadith*), the five mysterious Qur'anic letters (*muqaṭṭaʿāt*) of *ḥā-mīm-ʿain-sīn-qāf* (حم عسق in Qur'an 42:1–2) interpret catastrophe as outlining the stages of the apocalypse: "*ḥā-mīm* means that it is determined; *ʿain* is punishment; *sīn* signifies years of famine akin to those of Joseph's time; and *qāf* indicates the final transformation of the world." The Imam continues, "[t]hey will suffer from a famine that will destroy them, and a sword that will shed their blood" (al-Nuʿmānī 1997, 296–97). Similarly, ʿAlī ibn Abī Ṭālib, the first Shiʿite Imam, identifies these dual forces: "Before the coming of the Qāʾim, there will be red death and white death. Red death is by the sword, and white death is by plague" (al-Mufīd 1882, 372). Despite their prominence, the motifs of sword and famine in Islamic eschatology remain understudied. Yet this dual structure has proven fruitful for political and national elaborations.

The Zoroastrian work in Middle Persian *Ayādgār ī Jāmāspīg* (*Memorial of Jāmāsp*) offers perhaps the fullest mythical elaboration of punishment and messianism. In a lengthy passage, it foretells the end of Zoroaster's millennium:

> Those men who are at that time will all become covenant-breakers. One with another they will be vengeful and envious and false. And for that reason, Eranšahr will be delivered up to the Tāčiks[.] [...] Men will turn to unrighteousness and falsehood[;] [...] And ultimately deaths will abound[;] [...] And the atmosphere will be confounded [...] And the earth will be corrupt and injurious and will cause much desolation[.] [...] Then *Spandārmad* will cry aloud to *Ohrmazd,* saying: I cannot melt

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away this evil and badness. I am turned upside down and I turn mankind here upside down […] An evil spirit who is called *Vat-yavakān* ("causer of bad crops") was bound during the reign of Jam, but escaped from his bonds in the reign of Bēvarasp[,] […] he diminishes the crop of corn[.] […] Afterwards a man will arise from the Southern quarter[,] […] and will seize lands by violence and cause much bloodshed[.] […] Near the shore of the sea a man will see Mihr Yazd, who will reveal many hidden secrets[.] […] He will slay so many of the enemies, that their number cannot be counted[.] […] The time of the wolves will pass away, and the time of the sheep will enter in (Ayādgār ī Jāmāspīg: 16 as cited in Bailey 1930; 1931)

Here, the distinction between human action and natural disorder collapses. On one hand, nature's disruption results from human sin; on the other, political catastrophes—like conquest—are depicted as divinely sanctioned. Climate disorder is expressed ambivalently—either passively (*vižandiheta*, 'the earth will be corrupt') or actively (*zamik vižandēnand*, 'they injure the earth'). The word *vināskār* (injury) alternatively implies moral corruption and utilizing fraud (Baily 1930, 75). *Spandārmad*, divinity of sacred devotion to the earth, cries to the creator deity Ohrmazd that she can no longer restrain the chaos, threatening to turn mankind upside down, metaphorically inverting the natural and moral order of human life and plunging society into confusion, suffering and ethical disorientation (74–75 as cited in Bailey 1931, 582). Even wind and fire harm humans, "because of the great grief and wrong they do." Finally, the imprisoned evil spirit *Vat-yavakān*, 'causer of bad crops,' is released and collaborates with the king to ruin the harvest, leaving people to face famine (78-80 in Bailey 1931, 583). The narrative reverses common assumptions: it locates the root of cosmic imbalance not in external enemies but in internal moral decay. Yet, it simultaneously presents the conquest by the foreigner Tāčiks as an external judgment. This tension, furthermore, reflects an enduring theme of national purity, in which ultimate blame lies with corrupting outsiders, echoing the roles of Gog and Magog in other Abrahamic traditions.[5] Amid this chaos, a moment of divine revelation gives rise to a messianic figure, who reclaims ancestral glory, defeats the enemies, and ushers in a new era of righteousness. Transitioning to the Qajar period, these apocalyptic symbols, taken literally by modern writers, serve as powerful tools for reconfiguring history. They offer hope and meaning in times of crisis. The central question is not how systematic theology has interpreted these signs, but how they have been understood by religious populations, and

5 The anthologies Gog and Magog (Tamer and Jandeisek 2023) deal with this story in Judaism, Christianity and Islam. According to Ezekiel 38–39, Gog and Magog embody evil and will be eschatologically destroyed by God. Some apocalyptic sources attribute them to specific groups and nations.

how such interpretations shaped collective responses to catastrophe in early modern Iran.

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Method and Primary Sources

This research focuses on popular apocalyptic speculations that reflect the Qajar (1786–1925) social and religious milieu, even though they occupy no formal position within theological discourse. Since the time of Muḥammad Bāqir Majlisī (1627–1699), numerous theological treatises by prominent religious authorities (*marājiʿ*) have addressed Shi'ite Islamic eschatology and messianism. However, in early modern Iran, apocalyptic sentiments were often more vividly expressed in writings by lesser-known figures appearing in short testimonies, laments, marginalia, memoirs, health protocols, and astrological commentaries. While these texts may lack coherent theological argumentation or methodological rigor by scholastic standards, they can be seen as popular responses to, or reinterpretations of, the prevailing political theology under the Safavid (1501–1736) and Qajar dynasties, both of which shaped official representations of Shi'ite Islamic messianism.

Several manuscripts warrant special attention for their relevance to this study.[6] *Risālah ʿIbrat al-Nāẓirīn wa Ḥīrat al-Ḥāḍirīn* (*A Lesson for the Observers and Amazement for the Present*), authored by a secretary in the court of Nāṣer al-Dīn Shāh Qajar, offers detailed reflections on apocalyptic themes. Similarly, *Risālah Tanbīh al-Ghāfilīn wa ʿIbrat li al-Nāẓirīn dar Qaḥṭī Isfahān* (*An Admonition for the Inattentive and a Lesson for the Observers in the Drought of Isfahan*), composed by a prominent Isfahani cleric and poet, combines mysticism with reflections on famine. An untitled text by the relatively obscure cleric ʿAṭā-Ābādī of Isfahan interprets celestial phenomena as omens preceding the famine of 1871. *Mīrāt al-Īmān fī Aḥwāl Amnā' al-Raḥmān* (*The Mirror of Faith in the States of the Custodians of the Most Merciful*), which comprises the final chapter of a hagiographical work on the Mahdi, links the 1918 famine to signs of his advent. Another significant source is a series of three untitled manuscripts by Mu'min al-Mamālik Hamadānī, which juxtapose the famines of 1872, 1898, and 1918, exploring their apocalyptic implications.

Additional sources include *Maṭlaʿ al-Anwār min Mashāriq al-Aṭhār* (*The Rising of Lights from the Purest of the Easts*), *Muntaqal al-Maqāl* (*The Conclusion of the Discourse*), *Riyāḍ al-Arwāḥ* (*Gardens of Souls*), *Jāmiʿ al-Faḍāʾil* (*The Collection of Virtues*), *Shikāyat az Qaḥṭī va Bīmārī be Imām Zamān* (*Complaint of Famine and Illness to Imam Zaman*), and *Vaqāyeʿ Sāl-e Qaḥṭī Qom* (*The Events of Qom's Famine Year*). Furthermore, two

6 The texts analysed in this article are drawn from 18 sources preserved in the archives of the Parliament Library, the Library of Ayatollah Marashi Najafi in Iran, and the Library of the Centre for the Revival of Islamic Heritage in Iraq. They were either accessed directly in handwritten form or transcribed and published publically by historians.

untitled texts by Sāvejī and Kūchak Beygī, along with three additional manuscripts transcribed by the historian Rasūl Jafarian on the famines of 1831 and 1872, provide valuable insights into the apocalyptic framing of famine.

This analysis employs a phenomenological hermeneutics of famine and war, suspending questions of historical 'reality.' These texts are approached not as objective records but as religious and metaphorical discourses in which truth is communicated through expressive and symbolic language. The concepts of famine, war, and apocalypse are examined in their most immediate and spontaneous forms, gradually revealing their deeper scriptural and mythic frameworks through an iterative process. Even the lack of bread—the typical sign of material famine—is shown to carry existential and mythical meanings. This method enables an inner understanding of apocalyptic motifs and their roots in religious imagination. It also sheds light on how such concepts generate meaning in both individual and collective experiences of suffering.

Catastrophe as Apocalypse

Catastrophe does not present a single, unified image of the apocalypse. Instead, the texts present a fragmented tableau of famine and chaos: hunger, disorder, cannibalism, scattered corpses and celestial disturbances, as well as religious responses—prayer, protest and hope (see note 2). This section explores the symbolic significance of these motifs and their narrative function in apocalyptic discourse. In the sources examined, apocalyptic imagery operates on two interwoven exoteric and esoteric levels: The former, represented by *qiyāmah* (resurrection), denotes an external upheaval with socio-political and cosmic ramifications; the latter, *balā* (tribulation), refers to an internal process of testing and suffering. Together they articulate the possibility of both cosmic and personal apocalypse. The question of how this framework might have led to social and political implications is discussed in the final part.

1.1. *Balā* and Purification

Victims of famine cry out for bread—the most basic form of sustenance—which becomes the ultimate determinant between survival and death (Jafarian and Koushki 2008, 139). A stark illustration of this is the assertion that "a hundred lives are worth a loaf of bread" (Jafarian and Koushki 2008, 138). In famine, bread transcends its mundane role and becomes obtainable only through the most extreme currency: life itself

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(Mullah Muhammad Ibrahim 1918). The boundary between bread and the human soul blurs. Sufferers are described as losing their soul in the desperate search for bread (Badaye Negar 1887, 33). Bread, in this sense, is more than bodily sustenance; it serves as spiritual nourishment. It is said to "traverse the levels" within the person, eventually elevating the individual to a full human being (Jafarian and Koushki 2008, 136). The significance of bread is such that earning it precedes the purification of both heart and soul (Jafarian and Koushki 2008, 137).

This interchangeability of bread, soul, and life gives rise to the mystification of bread. During famine, the usual order of things is reversed: the hungry find no bread, while those with bread lack the will to eat (Jafarian and Koushki 2008, 137). Bread becomes an enigma, both sacred and elusive. Lamentations and prayers for bread fill the air, the word 'bread' rippling through the streets like waves (Jafarian and Koushki 2008, 145; Kurdi 1829). Bread is sanctified and compared to the sun, "visible only in the sky" (Jafarian and Koushki 2008, 138). Over time, this image becomes a religious vision; cries for bread reach the heavens. Its association with religious symbolism is such that some claim, "if you ever brought bread to the pulpit, it was as if you brought a prophet" (Jafarian and Koushki 2008, 138). In famine, bread is transfigured into a sacred object, embodying both desperation and spiritual hope. This view transforms hunger into an element of spiritual trial and divine judgment.

Hunger has been described as "the tribulation of famine and drought" (balā-ye qaḥṭ wa ghalāʾ) by one author (Jafarian and Koushki 2008, 135). This associates the tribulation (balā) with the will of God. In the Qur'an, balā is an ambivalent concept. According to a commentator, it can signify both favour and vengeance, with its root meaning tied to testing: "first scourge and then praise" (al-Ṭabarsī 1995, 226). The word tublā, derived from the same root (b-l-y), implies revelation in the apocalyptic verse: "the day when the secrets will be [tested and examined and] laid bare" (Qur'an 86:9).[7] Thus, tribulation as divine test becomes an interpretive lens for eschatological thinking.

A common metaphor for this test is the sieve (gharbāl), symbolising the separation of the righteous Shiʿites. Jaʿfar al-Ṣādiq describes this process as one of "distinguishing" (tamyīz), "scrutiny" (tamḥīṣ), and "transformation" (tabdīl), involving both "a famine that will devastate them and a sword that will spill their blood" (al-Nuʿmānī 1997, 291). The notion of redemption through suffering resonates with the Zoroastrian hope for the Final Body, which can only be attained by those who "bear the tribute, the harm, and the evil" (Zand ī Wahman Yašt 4:67 in Cereti 1995, 158). A mythical figure that exemplifies tribulation is Dajjāl, the false messiah,

7 All Qur'anic translations are taken from Nasr (2015).

who emerges in the end times alongside ecological catastrophes such as famine. He possesses the mysterious ability to grant tempting rains and sustenance (Algar 1993). However, the faithful are called to endure his false offerings; only after the true messiah, the *Qāʾim*, triumphs will divine rain return: "the sky will rain like in the time of Adam, and the earth will bring forth its blessings, and my community will live in his time a life that it had never lived before" (b. Ṭāwūs 1991, 165).

In the formula of famine and sword, fear sometimes replaces the latter. The Qur'an promises to "test [believers] with something of fear (*al-khawf*) and hunger (*al-jūʿ*)" (Qur'an 2:155). Jaʿfar al-Ṣādiq interprets this fear as originating from "the rulers of a dynasty in the twilight of their reign" (al-Nuʿmānī 1997, 250). A writer during the famine of 1898 recounts suffering from deep depression and anxiety (Hamadani 1898). Another describes hunger transfiguring into an overwhelming fear of death, leaving people with nothing but "the fear of death and the torment of hunger," their minds "burdened in the bones," and their hearts "lost in the bush of tumult"—even lovers forget their love (Badaye Negar 1887, 33; Kurdi 1829). Faces wither, eyes are hollowed by despair, and people seek death (Badaye Negar 1887, 33).

The concept of apocalypse as *balā* introduces an existential imperative to act in the face of suffering. Yet, crises are not solely triggered by nature, human action also plays a role. Social inaction exacerbates catastrophe, exposing moral decay. Despite some charitable efforts—donations and hospices (*dar al-ʿajzah*)—compassion declines and "hearts have hardened" (Jafarian and Koushki 2008, 140; Badaye Negar 1887). The result is an earthly hell, where the poor suffer while the rich remain indifferent, indulging in luxury and treating famine as their promised heaven (Anonymous 1872a). When the rich open shops, it is likened to doomsday; the baker becomes "the infernal owner of lives" (Jafarian and Koushki 2008, 145). The famine is less a natural disaster than a reflection of human sin, which is also illustrated in the Zoroastrian *Ayādgār ī Jāmāspīg* (26–30 as cited in Baily 1930, 57–58).

Famine becomes the outer garment of sin and fear (Jafarian and Koushki 2008, 135). The Qur'anic phrase "the garment of hunger and fear" (Qur'an 16:112) captures this embodiment. Seers believe that only God can deliver the victims from the wrath provoked by human actions (Jafarian and Koushki 2008, 146; Hamadani 1898; Gilani 1837). Sin, especially *kufr* (unbelief) and *kufr-e niʿmat* (ingratitude for divine provision), is the root cause of the *balā* (Jafarian and Koushki 2008, 135). As the Qur'an states, "[i]f you give thanks, I shall surely grant you increase; but if you are ungrateful, truly My Punishment is severe!" (Qur'an 14:7). In response to

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guilt, God unleashes his wrath, leading sinners to endure hunger and ultimately perish in the abyss (Jafarian and Koushki 2008, 135). Some writers blame the calamities directly on the greed and envy of ascetics and clerics (Anonymous 1831; Jafarian and Koushki 2008, 136).

Thus, famine and war are both divine judgement and revelations of sin. For seers, the true apocalypse is the loss of religion. The *sharīʿa* becomes illusory, and disbelief spreads (Gilānī 1995 [1916], 150). In *Ayādgār ī Jāmāspīg*, famine signals the end of the millennium of Pure Religion, (1-6 as cited in Bailey 1930, 55) while *Zand ī Wahman Yasn* blames the failure of rain on the rise of the "religion of wealth" (4:41 as cited in Cereti 1995, 156). People ridicule religious figures and mock divine law (Anonymous 1872b). As one author laments, "day by day, the intensity and abundance of sin has increased" (Jafarian and Koushki 2008, 135). The concern is not only over famine as punishment, but sin's corrosive effect on faith.

In these conditions, cannibalism becomes the most transgressive symbol of famine. One report describes a youth killed for two loaves of barley bread (Safari 2014, 141); others describe the year 1288 AH [1872] as "the time when cannibalism became common" (Hamadani 1872). Reports include people eating carrion, dogs, human flesh, and even their own children (Jafarian and Koushki 2008, 142; Badaye Negar 1887, 32; Ata'abadi 1871; Gilani 1837; Mullah Muhammad Ibrahim 1918). Such horror recalls the biblical famine curses in Ezekiel 5, where cannibalism and divine judgment are parallel motifs: "Parents will eat their children, and children will eat their parents" (5:10); followed by "a third shall die of famine [...] a third shall fall by the sword" (5:12). These verses are taken to reflect Ezekiel's horror during the siege of Samaria (Block 1997, 204). What these apocalyptic images reflect is a deep historical connection between political crisis, sin, and famine that still shapes our experience of trauma.

Famine thus becomes both the prelude to and the condition of messianic intervention. Some describe it as a necessary cleansing: a *purging* (*tanqiya*) for a world saturated with sin. One writer calls it "a purging for the corrupt blood that had accumulated in the veins of the world," ([Anonymous] 1831) requiring the sword of the *qāʾim* (messiah) to redeem it (Jafarian and Koushki 2008, 136). This parallels Zoroastrian hopes for *Hōshēdar*, who will "cleanse the whole country" (Modi 1903, 122). This notion of purification becomes even clearer when we consider that famine does not refer to the sword of the foreign enemy, nor does it comfort the nation after it has been defeated in great wars, but the sword is possessed by the messiah and the whole world is expected to be relieved. The famine apocalypse becomes not merely a sign of destruction, but a

medium of purification, an unveiling that redeems the community, the cosmos, and even the reader.

In conclusion, the apocalyptic lens reframes famine not as a mere ecological event but as a theological and moral crisis. It reveals a structure of divine testing that implicates both the soul and society. Here, famine is not simply suffered — it is interpreted, moralized, and mythologized. The apocalyptic seer does not just witness the end; they discern its meaning. And that meaning demands transformation. The apocalyptic framing of famine reveals deeper anxieties about human morality, social collapse, and divine judgement: Famine punishes, purifies, and unveils. For the apocalyptic seer, the collapse of nature is the externalisation of the inward moral disintegration.

1.2. *Qiyāmah* in the Flesh

Authors frequently liken famine to the Day of Resurrection (*yawm al-qiyāmah*) (Badaye Negar 1887, 22), a Qur'anic term denoting the Last Day.[8] Victims' bodies are said to litter the streets (Mullah Muhammad Ibrahim 1918), with the dead piled upon one another, transforming once-fertile lands into vast cemeteries (Jafarian and Koushki 2008, 138). One author describes people standing "naked like on Doomsday," while a poet prays amidst the devastation, lamenting: "O Lord, what an apocalypse (*qiyāmah*) at this end of time" (Jafarian and Koushki 2008, 138; Gilānī 1995 [1916], 149). While the Arabic term's etymology is sometimes traced back to the Christian concept of resurrection (ἀνάστασις), Muslim commentators link it to the Arabic root *q-a-m* (to rise), evoking the image of the dead emerging from their graves (al-Ṭabarsī 1995, 352). The authors, however, envision the surface-level accumulation of corpses itself as a form of resurrection.

The integration of religious prophecy with contemporary calamities deepens the apocalyptic interpretation of famine and political collapse. One account reports that "one-third" of the population perished due to hunger, leaving the country devastated (Ahrabi Tabrizi 1872). Frequently cited *hadith* from the Sixth Imam, Jaʿfar al-Ṣādiq, states that "[the end of time] will not occur until nine-tenths of the people are destroyed," providing a religious framework to comprehend the staggering mortality rate (Ahrabi Tabrizi 1872; al-Nuʿmānī 1997, 393).

The living are also cast in apocalyptic imagery: Their breath is "caught in their throats," and only "one out of ten" of the poor survives (Badaye Negar 1887, 33). Poverty isolates the afflicted as if they were lepers, and fathers turn away from sons (Jafarian and Koushki 2008, 140; Anonymous 1872b). These depictions echo Qur'anic eschatology, in which "a man will

8 "When the Event befalls, none shall deny its befalling, abasing, exalting. When the earth is violently shaken, and the mountains are pulverized into powder, becoming scattered dust" (Qur'an 56: 1–6).

flee from his brother" and each person will be absorbed in his own concerns (Qur'an 80:34, 37), and resemble Zoroastrian *Ayādgār ī Jāmāspīg*, where familial bonds dissolve and sons rise against fathers (15–18 as cited in Bailey 1930, 56). Such motifs signal moral and social disintegration within a world suffused by eschatological fear.

For the afflicted, the crisis soon becomes cosmic. Survival hinges on rainfall, which now "withholds" its blessings (Jafarian and Koushki 2008, 138). Heaven appears estranged from the Earth yet mirrors its turmoil. The sky and earth, often symbolically transcendent, are personified as agents of divine justice or wrath. Famine is attributed to the sky's "stinginess," and though the Earth expresses remorse, it offers no relief (Damghani 1872). A poem portrays this celestial rupture, with the Earth flinging dust at the sky in a warlike gesture (Safari 2020, 247). The celestial sphere (*falak*) gains religious significance, as death becomes metaphorically framed: heaven is imagined as fitting shoes for the dead and hurling stones of sedition from above (Safari 2020, 244; Hamadani 1898).

Such cosmic combat is interpreted as part of the eschatological timeline. *Hadiths* that speak of the "change of time" and the emergence of "signs of the Day of Resurrection" are occasionally referenced (Ahrabi Tabrizi 1872; Damghani 1872). These signs are sometimes described with ambiguity, as in the phrase: "God knows about it before and after" ([Anonymous] 1831). A notable temporal sign is the alignment of the Jalālī and Hijrī calendars, symbolising the synchronisation of lunar and solar cycles. Shi'ite traditions identify the alignment of Nowruz and the Day of Ashura as an apocalyptic marker. One 1872 text links catastrophe to Nowruz falling on a Wednesday that coincided with Ashura (Ahrabi Tabrizi 1872), while another finds hope in their future alignment at the fourth hour of Ashura day (Hamadani 1872; Ata'abadi 1871). In this vision, historical turning points emerge from a dialectic of despair and hope.

Celestial phenomena—including the "astronomical events of that year" (Hamadani 1872)—are recounted as divine portents. Descriptions of thunder and lightning so intense that a pregnant woman gives birth, hailstones falling within half an hour, and extended thunderous sounds that prompt the recitation of Surah Ya-Sin (Qur'an 36) blend meteorology with eschatology ([Anonymous] 1831). One account describes an extraordinary meteor shower:

> Almost two hours before dawn, suddenly all the stars in the sky were in turmoil [...] meteors appeared from all directions [...] darkness turned to light, resembling daylight. A star then rose in the east, bright red, covering half the sky… the air turned yellow… just before sunrise, an

intense whiteness appeared... Six months later, red salty soil rained down, rotting the crops and trees (Ata'abadi 1871).

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The apocalyptic tone of these descriptions evokes prophetic hadiths and reinforce a cosmological reading of crisis. Visions by Muḥammad al-Bāqir of "a large yellow and red fire" in the East (al-Nuʿmānī 1997, 366–67) and by ʿAlī ibn Abī Ṭālib of a red mass as the "tears of the bearers of the throne" (al-Nuʿmānī 1997, 212) mirror such symbolism. The appearance of a bright star, followed by famine and drought, further accentuates the association between celestial events and apocalypse ([Anonymous] 1831). The prophecy culminates in the foretelling of mass death—"Drought in the east, drought in the west, a reddish tinge in the air, and sudden death towards the Kaaba" ([Anonymous] 1831)—referring specifically to the "death of Hajj pilgrims" as an eschatological marker (b. Ṭāwūs 1991, 43). Another *hadith* predicts "a pillar of fire rising from the east," instructing believers to prepare provisions for a year (b. Ṭāwūs 1991, 45).

This worldview found fertile ground in the rise of nineteenth-century popular apocalypticism, marked by eschatological calculations and prophetic revival. In particular, the fourteenth-century mystic Shāh Niʿmatullāh Walī's prophecies experienced a renaissance, anticipating wars, famine, and economic disorder in Iran (Jafarian 2012, 133–35). The alignment of global conflicts, plagues, and famine suggested an apocalyptic convergence on a 'universal' scale. Typhoid, cholera, and dysentery decimated populations (Gilani 1837; Hamadani 1918), while one writer described "the entire world" engulfed by crime and insecurity (Jafarian and Koushki 2008, 141). Telegraphic reports confirmed the global dimensions of the crisis, indicating famine stretching from India to Rome (Safari 2014, 141; Ata'abadi 1871). In these texts, the apocalypse was no longer a narrow, national fear but the dawning of a broader cosmic consciousness. In refusing to contain catastrophe within national or sectarian frames, these visions urged a break from sanctioned political theologies. What emerged on the horizon of *qiyāmah* was an interrogation of the world as it was.

1.3. Apocalypticism and the Crisis of Shiʿi Authority

The fact that the crisis extends even to 'foreigners' undermines nationalistic interpretations of famine commonly found in historical apocalyptic narratives. *Zand ī Wahman Yasn* (4:3), for instance, demonizes foreigners as descendants of the demon of wrath (*Xēšm*). Yet in the accounts of early modern Iranian victims, 'enemy' is no longer the agent of punishment. Instead, suffering appears as a universal affliction that transcends borders

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and human covenants. The catastrophe reaches such proportions that it seems as if the entire planet is engulfed in famine and drought, with the cosmos itself transformed into a famine-stricken entity (Mullah Muhammad Ibrahim 1918).

This is no longer a localized crisis but a "universal state of affairs" (Jafarian and Koushki 2008, 138). The calamity envelops the entire horizon, as the world is scorched by disaster and the cosmos immersed in suffering (Badaye Negar 1887, 22; Gilānī 1995 [1916], 149). A poet captures this cosmic despair by describing the year of the famine as a "dark era" (Mullah Muhammad Ibrahim 1918). Tragedy is manifested in the disruption of cosmic order. Famine and war are not only signs of the end times; they are the *ashrāṭ,* the conditions of the end. Although some texts attempt to offer theodicies, the sheer magnitude of suffering resists religious justification. The crisis appears devoid of divine purpose, marked instead by widespread injustice and the apparent triumph of evil (Mullah Muhammad Ibrahim 1918).

The death of spiritual leaders is framed as a further sign of cosmic disorder. Seven of the "learned scholars" from Iraq and other regions are reported dead, alongside several "descendants of the Imams" (*sādāts*) (Ahrabi Tabrizi 1872; Hamadani 1898). The injustice of famine is represented through the economy of bodily and terrestrial exchange: humans are nourished by the earth for a few days, yet must nourish it in return until the Day of Judgment (Jafarian and Koushki 2008, 144). This absurd imbalance becomes part of a demonic vision of existence:

> Eternity is nothing but life after life, and life is nothing but waste and illusion. There is no good in this world, where what is lawful (*ḥalāl*) results in reckoning, and what is forbidden (*ḥarām*) results in punishment[.] [...] And thus, time draws its sword and unleashes its injustice and cruelty upon us, leaving us nothing but sorrow and remorse (Damghani 1872).

The injustice of famines reflects a cosmic disorder where the earth itself becomes hostile to the body, no longer reciprocal or nourishing. The world is imagined not only as broken but as fundamentally alienated from the victims. In this way, famine is a theological and ontological problem—a sign of a universe infused with evil or futility. This outlook resonates with a gnostic vision, where the material world is understood as ruled by evil forces.

Such visions challenged the theological foundations of both Safavid and Qajar political ideologies. These regimes sought legitimacy by posi-

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tioning themselves within Shi'ite eschatology: the Safavids promoted the notion of "a divinely guided state at the end of time" (*dawlatunā fī ākhir al-zamān*), where the ruler's function was both political and spiritual, preparing the world for the return of the Twelfth Imam (Jafarian 2012, 125–36). The theologian Majlisī played a pivotal role in aligning Twelver Shi'ite theology with the Safavid state (Majlisī 1983, 243). Under the Qajars (1794–1925), the *ulama*, particularly those of the mainstream clerical Usuli tradition, whose authority was a direct legacy of the Safavid period, became a dominant religious force, prioritizing doctrinal orthodoxy and jurisprudential authority (Amir-Moezzi 2007).

Yet, this clerical establishment faced growing disillusionment during the famines of the nineteenth century (Chirol 1903, 97). According to Eastwick, mobs in Tehran once attempted to "throng to death" the *imam jom'e* in protest against soaring bread prices (Abrahamian 1982, 42). Disenfranchised masses turned instead to symbolic protests such as *bast nishīnī* (seeking refuge in shrines), signalling a breakdown in the authority of the religious elite (Calmard 1998). These crises catalysed a theological rupture: apocalyptic hope no longer resided safely in the future but erupted into the present through heterodox visions, messianic uprisings, and public unrest (Abrahamian 1982, 69–81). While the institutional framework of Qajar Iran sought to contain such forces, their very failure to address urgent crises inadvertently fostered revolutionary energies that would draw on the same eschatological narratives for legitimacy.

This atmosphere of religious uncertainty also enabled the rise of alternative religious currents. One response was the growth of esoteric movements such as Shaykhism, which emphasized the spiritual presence of the hidden Imam and anticipated his imminent return. Jafarian has characterized this trend as the "return of *ghuluw* (exaggeration) to Shi'ite thought" (Jafarian 2018). Violent clashes between Shaykhis and traditional clerics led to riots, deaths, and the destruction of property (Hamadani 1898). Famines intensified the unrest, as rebels accused the ruling elite of being powerless against the forces of disorder, "shaking the borders of the country" (Badaye Negar 1887, 8; 26).

Another powerful expression of apocalyptic imagination came through messianic claims. The most influential were the Bāb (ʿAlī Moḥammad), founder of Bābism, and Mahdi Soudani, who led anti-colonial revolts in Sudan in the 1880s. The Mahdi Movement's victory over British and Egyptian forces inspired admiration in Iran (Jafarian 2012, 205–08). The Bāb (literally Gateway [to the Hidden Imam]), initially a Shaykhi follower, claimed to herald the imminent return of the Promised Imam and declared that "in a certain month of Muharram[9] or Nowruz[10] is the time

[9] The first month of the Islamic calendar when warfare is forbidden, but the Battle of Karbala, which led to the martyrdom of the Third Imam, took place during this month.
[10] First day of the year according to the Persian calendar.

of emergence [of Qāʾim] and the rule of truth" (Boroujerdi 2020 [1852], 7–12; Jafarian 2012, 230–37). This prophetic declaration contributed to the popular interpretation of the 1872 famine as an apocalyptic event.

This theological rupture, sharpened by famine, loss, and cosmic disorder, eroded trust in both clerical authority and political legitimacy. Apocalyptic imagination thus becomes a medium for expressing both existential despair and eschatological yearning. Famine, in this context, is not merely a physical crisis but a theological indictment: a sign of a world out of joint, where divine justice, cosmic order, and historical agency are all thrown into question. As millenarian movements challenged established interpretations of Shiʾite eschatology, and messianic figures mobilized the masses, the religious imagination laid the groundwork for political revolt. These apocalyptic ideas, therefore, should not be seen as isolated theological reactions.

Conclusion

Humanity continues to rely on ancient mythical languages to navigate the disorder of existence. The earth, once conceived as a reflection of divine harmony and a source of providence, becomes resistant to human control. The image of a just and benevolent God grows increasingly difficult to reconcile with lived reality. Social hierarchies disintegrate, and humanity is confronted with a profound existential rupture: the perceived loss of mastery over nature and history. A crucial motif in this discourse is the transformation of the "sword": no longer a symbol of foreign conquest, it becomes the Messiah's instrument of cosmic justice. This reconfiguration undermines both imperial and nationalist eschatologies, shifting divine wrath from the realm of external invasion to the domain of internal moral decay. Ultimately, the apocalyptic experience—whether of famine, war, or systemic collapse—illuminates the fragility of human institutions and compels a confrontation with uncomfortable truths about collective complicity. Yet it also offers the possibility of transcendence through the very destruction that threatens to unravel the world. The apocalyptic horizon thus emerges as a liminal space in which the ultimate realities of existence are disclosed.

When the totality of order is ruptured and suffering intensifies to the point where "death may seem preferable to enduring anxiety," (Badaye Negar 1887, 33) the seer survives by transmuting catastrophe into redemptive knowledge. In such moments, apocalypse ceases to be merely a terminal event and becomes a revelation, a mode of epistemological confronta-

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tion with truths obscured by normative structures. This transformation is exemplified in Figure 1 that opens this article, where the painter depicts himself as the sole standing figure amid scenes of ruin, perhaps the only survivor — not despite the devastation — but through the act of seeing. Similarly, a diarist's reflection that recording such bitter memories was only possible "by Divine grace" (Jafarian and Koushki 2008, 139) underscores witnessing as a sacred act, one in which testimony becomes a medium of survival and meaning-making.

Apocalyptic discourse, in this sense, functions as a counter-history — an insurgent hermeneutic — which disrupts dominant narratives and opens space for revolutionary imaginaries. It interrogates the sufficiency of traditional theodicies and fuels millenarian and gnostic reinterpretations of salvation history. Future research would benefit from a closer examination of how these esoteric paradigms of Shi'ite messianism shaped the ideological contours of Iran's Constitutional Revolution: a legacy that remains acutely resonant in contemporary debates on political theology.

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Ana Rüsche
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Inheriting Apocalypses: Representations of the Anthropocene in Contemporary Brazilian Literature

Abstract: Cultural productions that deal with the idea of the end of the world are a common phenomenon in Western imagination. However, it is not the human species as a whole or even the planet that is facing an end, but, rather, the unsustainable way of existence based on excessive accumulation and limitless exploitation of ecosystems, which puts humanity at risk of a real apocalypse due to climate change and the ecological crisis. Additionally, many other worlds have already undergone their demise or exist within a post-apocalyptic framework, as evidenced by the experiences of various Indigenous peoples. This article aims to examine the representations of the end of the world presented in three Brazilian novels, which employ a combination of satire and pessimism to portray dystopian scenarios threatened by the end. *Não verás país nenhum* [*And Still the Earth*] (1981), by Ignácio de Loyola Brandão, a critique of the process of re-democratization following the civil-military dictatorship in Brazil, set against the backdrop of the severe consequences of the ecological crisis; *A Morte e o Meteoro* (2019), by Joca Reiners Terron, addresses the extinction of an Indigenous people resulting from the devastation of the Amazon as a metaphor for recurrent colonial exploitation; *A Extinção das Abelhas* (2021), by Natalia Borges Polesso, a fragmented narrative that reflects the collapse of the world, from an urban center to an escape through solidarity. In light of the insights offered by thinkers such as Danowski, Ferdinand, and Viveiros de Castro, and in dialogue with the work *Metade cara, metade máscara* (2004) by the Indigenous writer

Eliane Potiguara, we argue for the need to broaden the conception of *single world* and *single end,* in order to transcend this colonial construct that is so unproductive regarding the challenges of the Anthropocene.

Keywords: ecocriticism, dystopia, contemporary Brazilian literature, apocalypse, Anthropocene.

Introduction

As reported by Berkeley Earth, an independent climate science research organization, 2024 was the warmest year since the pre-industrial era, and the second in which the annual average surpassed the 1.5°C threshold, reaching 1.62°C of average warming (Berkeley Earth 2025). Additionally, the calculations indicate that there is a 52% chance that 2025 will have an annual average above 1.5 °C. Indeed, the data for 2025 thus far indicate that the situation is unlikely to improve: January 2025 was the warmest January on record and March 2025 tied 2024 and 2023 for the warmest March on record. Furthermore, the extent of Arctic sea ice at its annual maximum was the lowest since satellite tracking began in 1979, largely due to the significant melting of glaciers.

This information demonstrates that we are currently residing within a new climate regime (Latour 2020, 17), necessitating the immediate implementation of mitigation strategies. Failure to implement such measures will result in the intensification of these effects on an annual basis, ultimately jeopardizing the sustainability of our society. As Lovelock (2010, 17) has observed, the Earth is increasingly at risk of changing to a sterile state in which few of us will be able to survive, a scenario that encompasses both humans and non-humans. Indeed, a considerable number of animal and plant species have become extinct in recent decades, which raises the possibility of the Sixth Great Extinction in planetary history (Kolbert 2015).

Information of this nature is undoubtedly important in terms of situating the seriousness of the crisis. However, there is a risk that it will result in an "information dump," as Timothy Morton (2018, xviii) terms it, namely an excess of knowledge that is often divorced from a broader scientific context and transformed into factoids. This can hinder rather than facilitate awareness of the ecological problem. For Morton, the dump of information "is actually *inhibiting* a more genuine way of handling ecological knowledge. There are better ways of living all of this than we have now, and we don't even *know* that we are living it right now" (Morton 2018, xxi). Within the ideas of the British thinker, it is important to observe the

spaces of possibility, in search of other premises for entrenched thoughts. In this sense, art appears as a way to speculate on new ways of living and making sense of the crisis, transforming numbers and scientific data into possibilities for thinking, feeling, and acting in the world: "Artwork is a sort of gate through which you can glimpse the unconditioned futurality that is a possibility condition for predictable futures" (Morton 2018, 78).

In the collective imagination of Western civilization, there is a scarcity of apocalyptic visions that depict the extinction of the human race in its entirety. Often there is an escape, as in the mythical example of the salvation of Noah's Ark, where the patriarch would save himself and still be the selector of the chosen species. Caribbean intellectual Malcolm Ferdinand points out that boarding the ark marks an ideology in which the survival of certain humans and certain non-humans is naturalized based on a certain social and political organization, which legitimizes the violence of selection presupposed by boarding (Ferdinand 2022, 79). In the West, when the end of the world is imagined, artistic representations usually concern the end of *a very specific world*, and what is threatened is the mode of existence that has been widespread over the last few centuries, based on the quest for various forms of excessive accumulation that require limitless exploitation. There is an overproduction of goods, food, waste, and information, and the consequent exploitation of soils, waters, the atmosphere, fossil fuels, non-human beings, and even humans.

In the narratives that explore the end of *this kind of world*, humanity is not extinct; rather, it is forced to live in a very different way than what has been built by capitalist industrial civilization over the last few centuries. However, this is often perceived as a genuine apocalypse. As Australian researcher Claire Colebrook (2019, 43) states, these narratives depict "a post-apocalypse in which the urban conditions of Western hyper-consumption have vanished and we are reduced to mere life, or it is a horrifying return to stateless nomadism, such that 'we' are now living in conditions that we simply cannot call a world." It is not coincidental that *this specific world* of excess and exploitation is the same one that has produced the planetary changes that threaten the continuity of human life as a species. In other words, "the very conditions that we mourn at the end of the world (such as an imminent end to hyper-consumption) are the cause of accelerated extinctions rates" (Colebrook 2019, 44).

Therefore, the world of excess that emerged in the mid-fifteenth century, when a series of transformations of landscape, class, territory, and technology occurred (Moore 2022, 23), resulting in both biospheric instability and the current situation of capital accumulation and social inequality, must end if humanity is to avoid extinction. If this world is maintained,

it will end along with the possibility of human life on Earth. Either way, the days of *this world* are numbered.

This forces us to acknowledge that, just as with the Anthropocene crisis, an apocalypse has disparate and localized perspectives and implications. There is a significant distinction between the end of *the world* and the end of *a world*. In this sense, the Brazilian scholars Danowski and Viveiros de Castro (2017, 37) posit that the concept of the "end of the world" can only be thought as possible if we simultaneously determine for whom this world that is ending is configured as a world, in other words, who is the worldling that defines this end: in essence, the world is an objective perspective. Indigenous literature written in Portuguese in Brazil often thematizes this violence. A twenty-year-old book, *Metade cara, metade máscara* ([*Half face, half mask*]2004),[1] by Eliane Potiguara, sews together fragments of non-fiction and poetry based on the defense of the visibility of displaced Indigenous peoples ('without a world' for our analysis)—people who, in the second half of the twentieth century, suffered not only the murder and loss of their lands, but also the destruction of their sacred cemeteries (2018, 23). Eliane Potiguara emphasizes that "the story told here is not an unusual case" (2018, 29). For the author, the difference between her autobiographical account of the violence of the British colonial endeavor, interwoven with a love story and poems, and the experience of other people, is that most of them cannot narrate this loss; the majority "remained silent, sick, mad, isolated in the surrounding society" (2018, 29), pointing to an additional layer of terror: the invisibility of the catastrophe to other eyes.

Ailton Krenak (2019, 71), an Indigenous intellectual, also notes that several other worlds have faced their end in earlier times, such as the various Indigenous peoples who were wiped out by the arrival of Europeans from the sixteenth century onwards in Abya Yala, as the Kuna people call the land that was named America after colonization. French scholar Bruno Latour supports this idea, going so far as to suggest that the Anthropocene could be said to have begun in 1610, when Europeans brought the plague to the Americas and decimated some 54 million Indigenous people by killing them by disease (2020, 291). Within this perspective, Colebrook reinforces this difference in the views of the end of the world:

> Extinction, genocide, erasure of a way of life: when these occur elsewhere they are occasions for lament. But when the loss is contemplated of the humanity that forged itself as *the world* (by narrating and making sense of its others) *that amounts to the end of the world* (Colebrook 2019, 44).

1 The English language titles of texts as well as various citations have been freely translated by the authors of this article.

And even this extinct world of Abya Yala cannot be considered *a single world*. Danowski and Viveiros de Castro point out that what Westerners generally call 'the world' means to Amazonian peoples a "multiplicity of intricately connected multiplicities" (Danowski and Viveiros de Castro 2017, 97). Amerindians thus believe that there are many more societies and humans between heaven and earth than Western anthropologies and philosophies dream of.

There are therefore as many or more 'worlds' as there are different modes of existence, and only one of them is the propagator of the only definitive end of the world, which puts all human beings in the same boat heading towards extinction; which is, specifically the boat called the Anthropocene, motorized by the idea of progress and of industrial capitalist civilization.

At the same time, if we think of the world as synonymous with the planet, the coming decades or centuries may be a period of transformation, but in no way will it lead to the end of the world. As scientist James Lovelock (2010, 31) points out, it's not the Earth that needs saving. The planet will go on without Homo sapiens, just as it went on without the dinosaurs.

Several contemporary narratives denounce the fact that the world of industrial capitalist exploitation, based on progress that depends on the unlimited exploitation of nature, will lead us to a slow process of suffering that will first affect the most vulnerable sectors of the planetary population and whose consequence could be the total end of the human species. In addition to the aforementioned book by Eliane Potiguara, *Metade cara, metade máscara* (2004), we present three contemporary novels that address this theme within the context of fiction: *Não verás país nenhum* ([*And Still the Earth*] 1981), *A morte e o meteoro* ([*Death and the Meteor*] 2019) and *A extinção das abelhas* ([*The extinction of Bees*] 2021], by Natália Borges Polesso.

Não verás país nenhum: An End-of-the-World Military Project

Published in Brazil in 1981, Ignácio de Loyola Brandão's novel *Não verás país nenhum* [*And Still the Earth*] reached readers at a time when, as Brazilianist Elizabeth Ginway (2005, 126) points out, Brazil had been under a civil-military dictatorship for seventeen years and the negative environmental consequences of the authoritarian government's attempts at modernization and urbanization could no longer be completely hidden.

Born in the city of Araraquara (1936), the Brazilian author of the novel and journalist even experienced censorship of his works during the dictatorship. In fiction, this perception began to appear in the form of one of Brazil's first and rare twentieth-century ecological dystopias, the genre in which Ginway classifies Brandão's novel.

The work has a visionary approach in the way the narrative relates the possibility of a future environmental catastrophe to the consequences of human political and economic activity, a way of thinking that would only gain popularity in the 1990s. This makes *Não verás país nenhum* one of the pioneering novels in the depiction of the anthropogenic climate crisis, alongside works by authors such as Ursula Le Guin, Arthur Herzog and Richard Cowper. It is worth recalling that as early as 1900, the Brazilian writer Euclides da Cunha, while visiting the coffee plantations of southeastern Brazil, perfectly described human-induced climate change in a surprisingly contemporary vocabulary: "We have been a nefarious geological accident and an element of terribly barbaric antagonism to the nature that surrounds us" (Cunha 1967, 158). Perhaps this pioneering anthropocentric observation is most evident in regions of the world where the vision of colonial capitalist rupture cannot be hidden.

In fact, several of the problems that Brandão's fictional Brazil faces in the narrative derive from the colonial expedition and coincide with our reality today, more than forty years after its publication, such as heat waves, water shortages, and the threat of deforestation in the Amazon rainforest reaching a point of no return. It is as if the novel foreshadows a moment that will come to us now, in the second decade of the twenty-first century, reinforcing the idea that the present is itself historically dystopian (Moylan 2016, 15).

The book recounts the wanderings of Souza, a man in his fifties with arthritis in his knee. His job, formerly in education in the field of history, has been replaced by a bureaucratic and meaningless job. As a representative of the middle class, Souza has been married to Adelaide for 32 years and together they face food and water rationing, as well as the pressure to pay bribes to militiamen for a minimum of security. At one point, his nephew Dominguinhos, a "militecno," ends up taking Souza's place in the house, with Adelaide's consent (a "militecno" is a fictitious army rank controlling the best posts in the country, from ministries to banks and multinational companies, a symbol of the metaphorical fusion between authoritarianism and private capital). So, with his marriage broken up, the protagonist decides to wander around a ruined São Paulo; in this way, Souza's wanderings move the narrative form to explain and detail this reality altered by fiction and the protagonist takes the reader on an immer-

sion into a territory devastated by a technocratic military and totalitarian government known as "Esquema," whose machinations have caused widespread social, economic, and climate crises.

In this scenario, the ruling state bureaucracy slows down the simplest decisions, prevents people from moving and accessing basic resources, and ensures that information is manipulated or hidden by the official media. The Amazon rainforest became a desert, and without the rains provided by the moisture from its vegetation layer, hydroelectric power plants throughout the country were shut down. As a result, water became scarce and is controlled by tokens, which are also a currency for bribery and human trafficking; in Souza's description of his condo, he explains that a janitor needs to do a bargain with the garbage collectors and to talk skillfully with official water suppliers, illustrating how organized crime has become part of daily bureaucracy. Human urine is turned into a resource in the novel, subjected to questionable purification, and returned as a potable liquid used in various applications. Without water, with the extreme heat and chemical contamination of the soil and rivers, there are practically no plants or non-human animals left, and food has become totally artificial. The aridity of the environment spreads dust over everything, and in certain hot wet bulbs that suddenly appear, the high temperature kills people in seconds:

> There were other strange phenomena, like the heat pockets: areas of intense heat, impossible to stand in or even pass through. You'd be walking along and suddenly you were enveloped by incredible heat, you'd start to run, to try to escape, some of the heat pockets were small enough to come out the other side. In the beginning it was a sort of game. Dramatic, amusing—how all of a sudden someone in front of you would begin leaping about in confusion and run, screaming, back in your direction. Then everyone would hang back, aware that this behavior meant danger ahead. Later, when we went on our long trek, we saw that there were heat pockets everywhere. In certain regions they were immense, extending for kilometers. And then came the Period of Intolerable Weather. You just couldn't be exposed to the sun at all anymore. You'd go out in the street, and in a matter of seconds your face was hairless, burnt, and peeling, twisted out of shape. The light cut like a laser. In time the danger of the heat pockets increased. Once inside, there was no way out. Sun like a drill, it would kill you instantly, for sure (Brandão 2013, 224).

The severity of situations like the one in the passage above portrayed in the narrative of *Não verás país nenhum* reflects precisely how abnormal it would be to consolidate the 'victory' of Man over Nature, a dualism that has characterized Western thought for centuries. One of the hallmarks of this aspect of the narrative appears, for instance, in the celebration of the transformation of the Amazon into a desert by the country's rulers and businessmen. This is a drastic event, but its origins are perfectly in line with the ideology of the Brazilian government in the 1970s, which Brandão lived through. In this regard, Eliane Brum (2021, 27) points out that the civil-military dictatorship that oppressed Brazil from 1964 to 1985 carried out the first major project for the massive destruction of the Amazon rainforest, and also spread and promoted the idea that progress should reach this territory through deforestation, extraction of resources, and domination of nature and all the beings present there, who were considered irrelevant from an ecological point of view and, in the case of the Indigenous peoples, not even part of humanity.

In the novel, Esquema's government defends the destruction of the Amazon as a demonstration of progress. So, when the forest is finally transformed into a desert, the authorities publicize the fact as if it were a great event, the birth of the "Ninth Wonder":

> I'll never forget the infamous afternoon our new Minister of Real Estate Transactions declared on national television that "we should be proud of this most recently completed conquest—a great act by a government which is always thinking of our future." History, he said, would show how the System had created for our country one of the great marvels of the modern world. Now we, too, had a Sahara to be proud of—and our brand new desert would be photographed, filmed, painted. It would become a tourist attraction, a stage for glorious adventures.
> "As of today"—and he smiled rapturously—"we can boast a truly marvelous desert, hundreds of times larger than the Sahara, and even more beautiful. Utterly magnificent! We bestow on the world nothing less than the Ninth Wonder. Soon newsstands here and abroad will be flooded with images of our limitless plains, fantastically high dunes, singularly dry riverbeds" (Brandão 2013, 66).

This passage clearly shows the sadistic pleasure with which the destruction of the environment is celebrated, in exchange for a capitalization that favors only the ruling classes, although it drastically worsens the living conditions of all people, regardless of their economic power. The rulers and the super-rich—who in the narrative have no specific characteriza-

tion, being practically an inapprehensible entity—revel in their Ninth Wonder, unable to realize or accept that even they depend on the preservation of the biosphere to continue living, which exacerbates the separation between Nature and Culture. Economic progress is understood as exploitation and domination over all ecosystems, which are considered part of *another world*, archaic and problematic, separate from the *civilized world*. The ruling class in the novel don't realize that their quest to transform nature into commodities and profit will lead to their own demise, due to the environmental and climatic consequences of this process. In other words, these authorities and business people are incapable of seeing that these two worlds are interconnected, and in the height of their narcissism they don't accept that the *world of capital* is the most fragile in this relationship and that it depends on the *planetary world*. It's as if they would rather enjoy their privileges to the last drop and die in the process, than even think about a life of deprivation from excessive consumption.

At the same time as Brandão denounces this distorted view of the world on the part of those in power and explains the tragic ecological consequences of their actions, he creates, throughout the novel, countless situations as absurd as the one in the passage above—in which belly dancers dance over the remains of the Amazon rainforest—which make the reader alternate between despair and laughter. This satirical view of the ecological crisis, according to Morton, is a possible way out of the horror and melancholy that paralyze us, leaving a breach for desiring action. At some point, the horror becomes so absurd that it reaches the point of ridiculousness, leading to "Laughter inside tragedy. Comedy, the possibility space of which tragedy is a rare form. Comedy, the genre of coexistence" (Morton 2016, 119). This satirical approach thus allows us to deal with the horrors of the ecological crisis without sinking deeper into a depressive state, while also enabling the exploration of potential avenues for transformation. This utopian opening is confirmed at the end of the novel, when the smell of rain brought by the wind heralds a new moment, not the end of the world, but perhaps the chance for a new beginning.

Through a narrative that shows a nonconformist citizen going through various situations that range from the tragic to the absurd in the midst of a São Paulo devastated by the ecological crisis and the repression of a dictatorial government, *Não verás país nenhum* therefore speculates on the possibility of an ecological and climatic catastrophe caused not only by the decisions of a government, but also by the incessant search for modernization and progress based on the exploitation of nature, which is, in turn, seen merely as a source of resources. The novel thus highlights the view that there is only *one world* to be protected, that of the incessant

production of goods and the exaltation of technical progress, while the Earth itself is collapsing. It is a portrait of the implementation, to the last consequence, of the modern project of progress on a planet with finite resources, a fact that we can also call the Anthropocene. At the end of the story, however, there is the emergence of a utopian impulse, as the birth of a plant from the debris and the possibility that it will soon rain signal that perhaps *this world,* the planet, has not yet been completely destroyed.

A morte e o meteoro: End of the World and Cosmological Obliteration

Another Brazilian work that deals with the theme of the end of different worlds is the novel *A morte e o meteoro* (2019) by Joca Reiners Terron, a Brazilian writer and translator born in the city of Cuiabá (1968). In this dystopia, we once again find ourselves in a virtually deserted Amazonian rainforest, reduced to a few dozen hectares of nearly desiccated trees, home to the fifty remaining individuals of the fictional Kaajapukugi people, the last isolated Indigenous community. Unable to continue in the inhospitable environment and hunted by miners, loggers, landowners, police, military and government officials, in yet another episode in the colonial plot of death and plunder that Terron's narrator (2019, 11) calls "colonial psychosis," the Indigenous people ask for political asylum. They are taken to Oaxaca, Mexico, through an articulation made by Boaventura, a Brazilian 'sertanista'— a title that refers to the explorers who, from the sixteenth century onwards, violently invaded Indigenous and quilombola territories, killing, enslaving, and extracting precious stones and other riches, and who became known as 'bandeirantes'— one who had dedicated his life to study and, contradictorily, to protect the community's way of life.

This was an attempt to save the world of the Kaajapukugi from the wider apocalypse that had been ravaging the Amazon since European colonization in the sixteenth century. However, the emigration of these remnants as political refugees proved to be only a temporary postponement of their end, as there were no women or children among them. They were already destined to disappear, and the whole process, according to the narrator, was just another "lie dictated by the victors" (Terron 2019, 11) that end up as "the truth whimpering from another defeat, now undoubtedly final" (2019, 11).

The nameless Mexican indigenist who narrates the novel becomes responsible for accompanying the emigration of the Kaajapukugi after

Bonaventura's sudden and mysterious death. If we think of this process as part of a migration caused by the ecological crisis, the removal of these Indigenous people from their land and their transport on an airplane to another country is an action that can be understood according to what Ferdinand (2022, 79) calls "Noah's ark's boarding politics," that is, a way of dealing with the problem of climate refugees that "creates people who are conceptually stripped of their respective cultural identities and historicities by reducing them to 'loss-bodies'. The ecology of Noah's ark implies the loss of the names, cultures, and subjectivities of those on board" (Ferdinand 2022, 79). In this kind of politics, there is no concern with saving communities, cosmologies, cultural practices, and modes of existence; the "cultural diversity of the world and the plurality of histories are erased in favor of a scene where only the number of loss-bodies to be saved is counted" (Ferdinand 2022, 80).

The Kaajapukugi can thus be understood as yet another commodity taken from the Amazon to be valued as a number elsewhere, a hypocritical salvage policy that counts only as a media spectacle. By doing so, Terron presents a metaphor for the colonial process of invading the so-called 'New World,' a place to be explored and treated as a source of resources since 1492, highlighting the modern ontological separation between Nature and Culture, which also places the various Indigenous worlds and the white-Western world in different positions: the latter can dominate and destroy the former. As Benatti (2023, 15) points out, there was an interest in taking from this New World everything that could be taken, all the material wealth, but in order to do so they also took away a large part of the cultural wealth.

In the novel, the *sertanista* Boaventura makes it clear that these indigenous people are no more than "dead people walking towards nowhere" (Terron 2019, 24), since along with the forest, their ecosystem had already been completely destroyed, including "their sacred medicinal plants, and even the poisons in which they soaked their arrows and the timbó vine they used to fish. The fish died, the rivers dried up. Everything disappeared, even the beetles from which they extracted tinsáanhán". The erasure was also cosmological, since "[w]ith the disappearance of the tinsáanhán, their upper world was also swallowed up, and with it their gods, their feasts, up to the three Heavens, where they would rest in the fields, happily hunt beetles and make love to their women" (2019, 24). In other words, their world had already come to an end, and now they would lose even the ballast of their territory which would be, for them, a truly post-apocalyptic scenario, a terrible situation that finds echoes in the autobiographical account included in the aforementioned work by Eliane Potiguara (2018).

Joca Terron's narrative gains yet another layer of hypocrisy when we discover that Boaventura himself, an ardent defender of the Kaajapukugi, was responsible for a fundamental part of their world's end, since years earlier he had kidnapped, raped, and driven to death the last woman of this ethnic group, fulfilling his role as a *sertanista*, a satire which is also reinforced by his name, a surname typical of Portugal, the country that colonized Brazil, which also means 'good fortune.' The story represents the emptying of this Noah's Ark-like boarding politics. The fact is that for beings who do not experience the separation between Nature and Culture, like these Indigenous people, what the ecological crisis brings will always be *the end of their world*, because their cosmology and mode of existence are organically linked to the territory, the climate, the water, the forest, the soil, the farm.

It is no coincidence that the Kaajapukugi perform a ritual of self-sacrifice shortly after arriving at their assigned place in Oaxaca: suicide becomes a form of resistance for the entire Indigenous tribe against the process of colonization and exile imposed on them by the white man (Benatti 2023, 18). In Eliane Potiguara's nonfiction account, we find a tragically similar passage: "During the process of Indigenous slavery, many parents and families committed mass suicide against this form of oppression. They would jump off cliffs. It was an act of resistance" (Potiguara 2004, 23).

Without their land, their women, their children, and without the possibility of cosmological practices, the Indigenous community in Joca Terron's fiction was already living as undead people, and the actual passage to the world of the dead would be the only option to be reborn, according to their beliefs, in the "Third Heaven" (Terron 2019, 98).

At this point, the novel opens a breach for a possible utopian turn, as it is revealed that the practice of committing suicide was common among the Kaajapukugi in order to "continue in the Third Heaven, young and brave, and not as incapable old men" (Terron 2019, 98). In addition, their understanding of time is cyclical, as the world has a limit, and when it is reached, "Xijiè, the World, must repeat itself" (2019, 99), as a cycle of destruction and rebirth.

From this point of view, it is possible to see the exile of the Kaajapukugi not only as "a cunning political swindle disguised under the cloak of great humanitarian causes" (Terron 2019, 100), as Terron's narrator suspects, but also as a cosmological stratagem on the part of the Indigenous people aimed at renewing the planet as a whole. At the end of the narrative, while a plane is transporting the fifty dead bodies to Brazil, a meteor hits the Earth, causing complete destruction of the planet's surface, a

definitive *end of the world*. At that moment, one of the skiffs falls and opens, allowing the body to roll out: "He lifts his head and looks at me, stunned. [...] As if death were nothing more than the buzzing of an annoying fly" (Terron 2019, 115).

At the same time, throughout the novel, the narrator comments on moments of the space voyage of the Tiantáng I, a Chinese spacecraft bound for Mars "manned by a single couple whose arduous mission would be to fill Mars with little Chinese people" (Terron 2019, 65). Here, the inhabitants of a country on the other side of the planet, marked by racial and cultural otherness, simultaneously point to the exoticizing perspective of the narrative regarding Indigenous peoples and Chinese people, and also accentuate globalized relations. Curiously, the Chinese spacecraft displayed a symbol identical to the pictogram woven into the ceremonial costumes of the Kaajapukugi. Moreover, the Chinese astronaut and the last Indigenous woman abducted by Boaventura bore a disturbing resemblance: "they had the same corner-of-the-lip smile and Chinese ocelot eyes on the same round face" (Terron 2019, 104). The Chinese cosmodrome loses contact with the spacecraft shortly after launch, and a signal is not picked up until just before the meteor hits Earth. Thus, while the planet is destroyed in an explosion, the lost Chinese pilot of the Tiantáng I moves on to a "Third Heaven," and the fifty "men/beetles" return to life, reenacting the Kaajapukugi cosmological cycle of world destruction and creation:

> At the beginning of everything there was a great explosion in Di-yï-wài, the First Heaven, and Di-èr-wài, the Second Heaven where we now live, and this clash allowed Xikú-feixiguiuán, the Lost Pilot, to come from Di-sân-wài, the Third Heaven, inside Tinsáanhán, she said, the Great Beetle, from where came the black cloud of fifty smaller beetles, the Pilots, who defecated on Xéngjié-de-xuìmián-dao, the Island of Sacred Sleep. By eating the feces of the fifty beetles, the Lost Pilot also defecated, and from his belly came the ancestors of the Kaajapukugi (Terron 2019, 80).

So it could be the end of almost the entire human species, but also a new beginning when the big beetle returns from Mars and gives birth to a new humanity. An end of the world that opens the door to a utopian new beginning. Or, as Brito states, "[i]f the ecological extinction of the Earth means the extinction of the human species, the spaceship to Mars will lead the Chinese Adam and Eve as the rebirth of the Kaajapukugi to a new environment" (Brito 2023, 61).

A morte e o meteoro thus appears as a great metaphor for the domination of peoples, violence against others, and greed that have been part of Brazilian history since colonization (Benatti 2023, 14), a process that repeats itself cyclically, leading us ever faster toward the dystopian future of ecological crisis and mass extinction depicted in the novel. Furthermore, the novel highlights the way in which there are *worlds that are already extinct* and peoples who already live in a post-apocalyptic scenario, and who, therefore, face the planetary crisis of the Anthropocene with a different perspective from those who still believe that survival of *the world of consumption* is sufficient for humanity.

A extinção das abelhas: the End of the World Broadcast in Real Time

The novel *A extinção das abelhas* (2021) by Natália Borges Polesso, a writer born in 1981 in the city of Bento Gonçalves, who is also an academic and has won awards for her short stories, was published in Brazil in the midst of the COVID-19 pandemic and the rise of the country's extreme right-wing government. Critic Júlia Braga Neves says that the novel, set in the near future, "deals precisely with the pessimism, collapse and lethargy of contemporary Brazil, even if one can imagine a utopian desire at the end of the narrative" (2023, 135).

The title alludes to a real danger within the Sixth Extinction panorama: the threat of the disappearance of bees. Colony Collapse Disorder (CCD), the disappearance of pollinating honeybees, has been reported since 1869 and has worsened in the last two decades. Because they are considered 'livestock' they are a rare example of an arthropod remembered in the evolution of extinction, within what Malcolm Ferdinand will criticize within the notion of animal fracture (2022), since some non-human animals are more revered in their deaths than others. Which insects would be invited on to Noah's Ark? In the Patriarch's logic of observing the usefulness of non-human animals, bees would certainly go because of their primary function of pollination and honey production. Without bees, there would be no fruit or other human food. This fear has been explored in contemporary works such as the Norwegian novel *The History of Bees: A Novel,* by Maja Lunde (2015) and the Brazilian novella *Bugônia* by Daniel Galera (2021)—from the same year as Polesso's novel—Galera even draws on Virgil's *Georgics* to recount the misfortunes of the shepherd Aristaeus, who inexplicably lost his bees, a use of classical literature that suggests the

longevity of this fear of the loss of honey, which was considered sacred in Virgil's time.

Despite its title, the novel by Polesso does not focus on the discussion of animality, but, rather on the process of decline and disintegration of civilization as we know it in the West, in a region of southern Brazil. During the apocalyptic narrative, there is a "collapsometer," described as a "planetary protection and security measure" (Polesso 2021, 25). At one point, the protagonist, Regina, realizes that the "end of the world" is very close: "I had arranged to go to the movies with Paula, a trivial thing, a little breath of fresh air. But the first thing she said when she saw me was that if the bees really died out, the world would end" (Polesso 2021, 26). Like Souza, the protagonist of *Não verás país nenhum*, Regina is an intellectual with health problems, whose knowledge no longer makes sense in this reality. Unemployed at the age of forty, hypertensive and diabetic, she has a master's degree in literary theory, but doesn't have a diploma because she got involved sentimentally with her advisor, a woman in her sixties.

In the novel, environmental degradation goes hand in hand the degradation of social and political institutions, especially democracy, and the decline in people's living conditions, in a similar vein to the stories of Loyola Brandão and Terron. Polesso also makes frequent use of humor, continuing this tradition of combining satire with dystopia, as if the sense of catastrophe that is always present in the landscapes of the Global South could only be narrated with the softness of laughter; otherwise, it would be too dark, given the similarity to reality. Satire here is constituted through language, for example, when explaining the precariousness of the world of work, using the slang term *"frila,"* a Portuguese adaptation of the term 'freelance worker': "Maybe they'll call me to do some *frilas*. — *Frilas*? — That's what they said. Imagine me, sixty years old, having to do *frilas*." (2021, 283). Satire is also constituted through absurdity: for example the protagonist managing to make money by creating and uploading pornographic videos on the internet whilst wearing a gorilla mask. This absurdity alludes to a double layer of interpretation: citing a famous amusement park attraction of dubious taste in Latin America between 1970 and 1990 (the *Monga*); and, at the same time, citing the activism of the Guerrilla Girls, a group of anonymous artists who were formed in New York in 1985, with the mission of bringing to light gender and racial inequality within the artistic community. This fusion of popular and art references allows for a humorous but also critical effect, two characteristics of political satire.

The urban space of the novel, the city of Santiago, in the south of Brazil, suffers from the current Brazilian dictatorial regime, very much in the spirit of neoliberalism, which combines the exploitation of raw

materials with business conglomerates: "Agrotech, the whole bunch said that everything was 'under control,' that there were 'other means,' and that the function of technology was to 'overcome nature'" (2021, 17). As with Brandão's dystopia, the urban privileged classes hide behind walls, in privatized streets where life could still have some sense of normality, something that gradually crumbles in the novel, given the severe pollution, lack of products, and poisoning by pesticides ("You can't fool around. Our neighbors there put poison on the apples. They look beautiful, Regina. But it's death. Now they sell well in the supermarket" (2021, 33), suggesting that the local bourgeois way of life is no longer possible, even though people pretend not to notice the decay.

The first part of the novel consists of two interwoven narratives. Later, it is completed with collages of real news reports and third-person narratives, marking the accelerated pace of the collapse. If Eliane Potiguara had to stitch together literary species, from autobiography to poetry, to create *Metade cara, metade máscara*, then something similar happens in Polesso's enjambment, as if the narrative is on the verge of unraveling, just as the world is tearing itself apart.

In the first-person section, the narrator is called Regina, "a queen's name," as the novel emphasizes. An academic with a master's degree in literary theory, she speaks English, Spanish, French, and German, but she can't get a decent job; she's still unemployed and at risk of impoverishment, doing odd jobs that pay very little. In addition to her economic hardship, Regina also suffers from chronic health problems, as if the environmental disgrace has found an echo in her body. Finally, her problems still lie in her human relationships, her heart still broken by her last love, a university professor. In the face of general misery, in a world where religion and homophobia also threaten existences like hers, she decides to put on a gorilla mask and make a living making pornographic content for online clients: "So you're a prostitute now?—I don't know. Was I? I was" (2021, 103).

In the second narrative, alternating with Regina's, we have the third-person narration of the past life of the narrator's mother, Guadalupe or Lupe, who decided to give up everything, including her young daughter, to perform as a *Monga* in a circus. The showman defines her as a "gorilla woman," although she prefers "wild woman" (2021, 63). As the epithet of a free woman, Lupe travels a lot, all over Brazil, the Americas, and other places of the world, joining two lovers and other loves, being wise to stay away from toxic relationships and trying to enjoy life in its deepest sense. She will lose a limb and become an amputee, although her sense of community will keep her active and as fulfilled as possible, in a world that was

still possible because the climate emergency was not so pronounced, present, and pressing.

There are some points that unite the narratives; in particular, the relationship between mother and daughter, when the protagonist of the first narrative receives from her father "that bizarre image in which my mother, embracing two boys, was half dressed as a gorilla, holding a hairy head under her arm" (2021, 71). It is from this image that Regina decides to put her own naked body on canvas, promoting a kind of revenge and arousing desire in people who didn't want her before. In the plot, the far right is on the rise and Regina, like her mother Lupe, will depend on her community to survive: "and the government is trying to implement policies that don't sound so racist, but we know they are. Have you heard about the 'immigrant-free zones,' the 'gay-free zones,' and the refugee camps?" (2021, 76).

As the decay of everything accelerates, Regina goes mad. The final narrative, however, sews together a utopia and points the way to collective thinking. Told in the third person, it shows the protagonist being rescued by Lu (with whom Regina had a brief relationship), who refuses to leave her friend behind. With eight other women, they flee—as the narrative takes on the feel of a road movie or a train western, using guerrilla techniques as well as Indigenous paths—to find a safe place. These women have been left to their own devices, without boarding passes for the neoliberal Noah's Ark.

Initially rejected, Regina begins to integrate and observes how the other women love and protect each other, taking a route similar to Lupe's on the road to Santa Cruz de La Sierra. In the end, the women are reunited and decide to stay for a while (it is unsure how long) at the Balneario El Rincón, in an idyllic landscape with a dam, a small house, and a cornfield; spending their time naked in the water. The critic Júlia Braga Neves recalls, referring to Elena Gomel and Vered Kart Shemtov, that the term 'apocalypse' in its biblical origins is associated with revelations and prophecies (Neves 2023, 147), and what the author gives us in the end is a loving and inclusive place of resistance. If the bourgeois world has reached its end, it is possible to continue living in this refuge. Unlike Terron's Kaajapukugi, who are doomed to end because only men of their ethnicity are left, Polesso's women are a promise of the continuity of the species. We can assume that Polesso needed a fictional utopian relief to counter the overall sense of danger Brazilians felt due to the recent rise of the extreme right and continuous environmental destruction.

Final Words

Based on the works discussed here, we understand that contemporary Brazilian literature—at least that which adopts a more critical orientation—offers ways to represent and translate into personal feeling and experience the idea that there is not merely one world to be saved in the Anthropocene. These works emphasize that the notion of the end of a single world is a colonial construct, a worldview rooted in the belief that the Western world of progress and consumption is the only one that matters and, therefore, the only one worth preserving.

Não verás país nenhum, through the construction of a dystopian and tragic scenario of ecological destruction, explores what would occur if the drive to save this singular world of progress were taken to its extreme consequences. *A Morte e o Meteoro*, likewise, imagines a future of degradation, but places greater emphasis on the fact that many Indigenous peoples, particularly in Latin America, have experienced and continue to experience apocalyptic situations normalized by deforestation and the appropriation of ecosystems through colonial enterprises, such as the plantation system and other modern forms of environmental extraction and destruction. *A extinção das abelhas*, through its alternation of narrative perspectives and discursive modes, illustrates the parallel decline of democratic institutions and environmental degradation. The novel weaves together the voices of female characters, particularly those in homoerotic relationships, creating a multifaceted critique of contemporary climate crises. Ultimately, the narrative proposes that cultivating a renewed sense of community and strengthening bonds of solidarity might offer a viable path forward from these interconnected social and ecological challenges.

Although a pessimistic outlook and the memory of authoritarian regimes—ranging from the civil-military dictatorship to the rise of the Bolsonarist right—remain dominant themes in these narratives, all three works present moments of utopian openness and breath, pointing toward other possible worlds; especially shaped by the strength of communities and the enduring force of persistence. Thus, these narratives seek to connect different experiences of world-ending events, expanding the Western imaginary—which presumes the existence of *only one world* worth saving—to include fragmented perspectives on the *plurality of worlds* that exist and consider that *many worlds* have already been extinguished, while simultaneously underscoring the urgency of contemporary ecological issues.

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Nasreddine EL Guezar Science as a Discourse of Power in Apocalyptic Times in the Film *Don't Look Up*

Abstract: Apocalyptic narratives of environmental collapse have become increasingly visible in contemporary media and art. Films, as important cultural texts, help us understand how society imagines and responds to ecological crises. Primarily, this article examines the cinematic narrative of Adam McKay's *Don't Look Up* (2021). It discusses the film's portrayal of humanity's response to an impending environmental apocalypse predicted and warned of by science. The analysis attempts to examine whether the film depicts human indifference to science surrounding the apocalypse or reasserts science itself as a masked exercise of power that shapes what counts as knowledge through discourse. Seemingly, the film illustrates a contemporary society that is driven by short-term gains fostering a mass culture of scientific negligence, and sidelining crucial warnings of self-destruction. However, bearing on Michel Foucault's discourse theory and other ecocritical perspectives surrounding uncertainty and the apocalypse, this article advocates for expanding the discussion on the particular representation of science and scientists in film. Arguably, *Don't Look Up* appears to champion science as the watchdog and panacea in times of imminent events of destruction. This suggests a subtle exercise of power that discourages skepticism and promotes unquestioned trust in scientific discourses about environmental apocalypse. In this light, this article explores how political incompetence, propaganda distribution, and societal ignorance mask science as a discourse of power in the film.

Keywords: The environmental apocalypse, *Don't Look Up*, science, discourse, knowledge and power.

peculative scenarios where the end of the world becomes inevitable have long been a prime concern of the human imagination. Traditionally, imagining the apocalypse has often been associated with divine retribution inspired from cross-religious stories like Noah's Ark. However, in contemporary discourse, the notion of the apocalypse has evolved to encompass a broader range of existential threats, including those stemming from environmental degradation. Contemporary environmental writing often employs alarmist rhetoric and apocalyptic scenarios to highlight the urgency of ecological crises (Harrison 2002). Notably, many literary and artistic works feature storylines centered on imminent ecological destruction. These stories, oral, written, or visual, often depict events caused by natural disasters. These have turned out to hold speculations and insights that are worth analysis in the context of the environmental changes that the planet has been undergoing due to human activity.

The apocalypse, as James Egan defines it simply, is "the myth of the end of the world" (1984, 214). Even though the idea of the world literally ending often appears to be unlikely or exaggerated, human societies have always included apocalyptic narratives as part of their cultural imagination. Bertrand Vidal notes, "[d]espite being unrealistic the end of the world has become an obligatory myth in our history" (2015, 172). Contemporary visions of the future often carry a shadow of doubt, reflecting a growing uncertainty about humanity's capacity to steer the course of its own environment. What was once a story of progress now leans toward caution, as confidence in human agency fades beneath the weight of global challenges. Mark Fisher and Fredric Jameson have famously observed that "it is easier to imagine the end of the world than it is to imagine the end of capitalism" (Jameson 2003, 76; Fisher 2009, 2). This sentiment is echoed in the claim that "it has almost become easier to imagine the end of the world than it is to imagine a world capable of guaranteeing a future for humanity" (Vidal 2015, 179). This is becoming increasingly evident in literature, film, and art, where apocalyptic themes continue to mirror widespread anxieties and a collective recognition of the human limitations in the face of escalating crises such as climate change.

Some academics suggest that even the threat of total destruction—like climate catastrophe, nuclear war, or environmental collapse—is not enough to change human behavior in a deep or lasting way. Adam Trexler points out, "[a]ttempts to regenerate human morality, even on pain of apocalypse, are doomed to fail" (2015, 49). In a more recent publication, Davidson gives similar remarks on apocalyptic narratives, especially in climate politics: "The prediction that the wild weather of the future will result in the breakdown of contemporary society unless something

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is done creates a state of fear. Apocalyptic politics, rather than presenting the future as something that can be negotiated and reformed, suggests that the world is set on a trajectory toward catastrophe" (2024, 481). While apocalyptic thinking is sometimes accused of promoting fatalism or panic, it can also inspire pragmatic and hopeful approaches to addressing global challenges. As Lawrence Buell highlights, the apocalypse remains a "powerful master metaphor that the contemporary environmental imagination has at its disposal" (1995, 285). Many other scholars agree that "in projecting unforeseen disasters and imagining how humans and non-humans respond to them, post-apocalyptic narratives can accentuate and amplify the socio-ecological enmeshment between these beings" (Dang 2023, 3). Apocalyptic narratives, therefore, can mobilize creative and critical energies, rather than merely paralyzing audiences with despair and fear.

Among the creative platforms that communicate environmental apocalypses in an effective manner are films. Many contemporary films explore themes of imminent global destruction, often portraying worlds on the brink of collapse. Movies that mirror events involving destruction on a daunting catastrophic scale have been plentiful in recent years. Notable examples include, *The Day After Tomorrow* (2004), *The Road* (2009), *Geostorm* (2017), *Greenland* (2020), among many others. These movies dramatize important environmental themes into entertaining visual modes of narratives that leave an impact on audiences. With their concentration on natural disasters that touch humankind and the globe, these movies not only offer us the opportunity to imagine our present and futuristic worlds undergoing instabilities, but they also encourage us to think how we may grapple with them. In other words, these narratives urge us to reflect on the individual and collective responses of authorities, decision-makers, and those with the power and influence to drive actions that could potentially reverse the course of events during a crisis. That said, these films allow us to initiate critical reflection on contemporary environmental issues and open up to discussing cinematic productions that portray society's uncertainties in times of global destruction and ecological collapse.

A significant film dealing with the subject of environmental apocalypse in a manner that stimulates discussion is Adam McKay's *Don't Look Up*. The American movie was named one of the top ten films of 2021 by the National Board of Review and American Film Institute (2021 Archives). Starring Leonardo DiCaprio, Jennifer Lawrence, Cate Blanchett, and other notable actors, the movie combines satire and black comedy with a confronting soon-to-happen apocalypse—An approaching comet that will destroy planet Earth. "McKay gives you over two hours of laughs while

convincing you that the world is coming to an end" (LaSalle 2021). In this movie, a doctoral candidate in astronomy, Kate Dibiasky, and her professor, Dr. Randall Mindy discover the approaching comet and as a result they strive to warn the government officials and media outlets about the comet that will hit the planet and put an end to human civilization.

The film has garnered diverse reactions and analyses in academia. Most seem to circulate on how it serves as a satirical commentary on society's response to global crises, particularly climate change. Although the movie does not directly reference climate change, it effectively satirizes societal responses to scientific evidence and the lack of global action (Doyle 2022). Further, for Preece (2022), the movie highlights the challenges of compelling the indifferent to care about impending extinction and the failure of governments to address it. Gruber (2024) concurs that *Don't Look Up* operates as a satirical allegory for climate change, criticizing societal responses to scientific evidence, highlighting intergenerational differences in climate activism, social media engagement, and responsibility attribution. Coşkun and Kaymak (2022) also note that the movie highlights issues such as political self-interest, indifference, and the manipulation of reality. Chambers (2022) argues that *Don't Look Up* satirically critiques the marginalization and commodification of scientific expertise in media and politics, highlighting how gendered and institutional biases shape public perceptions of scientists and their credibility. Moreover, the film underscores the importance of clear scientific communication, the dangers of misinformation, and the role of motivated reasoning in addressing catastrophic global threats (Davis and Lewandowsky 2022). The film has prompted discussions about the challenges of science communication in the face of skepticism and ignorance (Mede 2022). It presents representations of science, scientists, and science communication as a satirical metaphor for the response to the climate emergency (H. Little 2022). Lay and Johnson (2023) contend that *Don't Look Up* presents viewers with a "moral imperative: Do all that you can to prevent climate change," and that, despite criticisms of its effectiveness as satire, this imperative remains undeniable. Overall, *Don't Look Up* has provoked significant scholarly discussion about its connection to the environmental issue of climate change, mass indifference of the public, and skepticism of science in times of crisis.

With analyses focusing on its satirical take on contemporary society's handling of existential threats, *Don't Look Up* has received notable attention from scholars. Generally, the circulating literature seems to draw attention to the film's critique of political inaction, media sensationalism, and public apathy toward imminent apocalypse based on scientific evidence. Amid an impending ecological crisis, politicians, media, and the

public have been perceived as indifferent to the scientific alerts.[1] In spite of this rather obvious interpretation, one may consider other possible readings surrounding the movie's portrayal of science itself. It stands to reason that science and scientists have been represented as a guiding light, disregarded by most, but have ultimately been the keys to averting the environmental apocalypse and preserving stability. While there appears to be a consensus among academics that the film can be interpreted as a satirical criticism of public indifference against science and scientists, little attention has been given to the depiction of the scientific discourse itself in the movie. In this light, this article seeks to revisit the environmental apocalypse in *Don't Look Up*, with particular focus on the representation of science and scientists prior to the catastrophe.

Focusing on the representation of science and scientists in the movie may lead us to find some significant areas of ambivalence, raising critical questions about why particular knowledge disciplines are favored over others or placed at the forefront of addressing environmental crises. It may be true that, in today's society, we are often able to bypass scientific facts and ignore potential threats to our survival in favor of short-term gain. However, one may wonder if the movie itself can be seen as an attempt to bring back scientific authority in predicting and dealing with ecological crises. It is argued here that the movie seems to push forward the idea that science is always the warning against as well as the answer to societies' most threatening problems. Despite the foolish mistakes that politicians, media outlets, and the public make, as dramatized in the movie, the cinematic production may also showcase a concealed, centralized control over knowledge discourse, reinforcing how power shapes what is accepted as knowledge. Thus, the movie does not depict innocent human ignorance of imminent environmental threats; rather, it reclaims science as a system of power, a knowledge discourse where scientists are the reliable authorities to dispel credible information and corrective remedy to the 'ignorant' public. Following this thesis, how does the movie's depiction of science and scientists subtly mask a discourse that positions knowledge as power in times of looming apocalypse?

To allow for a dive into our hopes and fears about the future, the apocalypse, in this regard, has been a powerful creative element in visual and written narratives. Narratives with this kind of orientation commonly rely on end-of-the-world scenarios around pressing environmental, technological, and social worries. Despite criticism of its effectiveness and accuracy, apocalyptic fiction serves as a powerful tool for reimagining the world and addressing climate change concerns (Moo 2015). In this way, these narratives are not mere tales of destruction and doomsday imagina-

1 *Don't Look Up* can be read as a satirical response to the widespread denial of scientific facts, particularly around climate change. While the narrative exaggerates for effect, it captures the core problem of denialism: The refusal to act on urgent knowledge, even when the consequences are obvious.

tion; rather, they act as platforms that convey collective anxieties about environmental degradation, societal instability, and the fragility of human existence. For instance, Cormac McCarthy's novel *The Road* or the *Mad Max* film series do not only present to us bleak, sterile, wrecked worlds, they rather push us to consider what it means to survive when everything we once took for granted has fallen apart or is on the verge of annihilation. Moreover, they challenge our understanding of the limits of human knowledge, questioning the common assumptions that we can easily predict and prevent substantial events using basic human knowledge and established disciplines. In other words, these narratives often employ the apocalypse as a 'black box' to grapple with the limits of human knowledge (Duncan and Gold 2019). In today's changing world, with multiple dilemmas hovering over us and the planet, paying attention to apocalyptic narratives that imagine limits of human knowledge may continue to stand as a reasonable need.

As such, discussing apocalyptic-packed narratives and the ways they can be analyzed has become important. Coming to realize the limits of our knowledge and the impossibility of absolute certainty, these creative stories help in navigating the unknown. In his *Going Away to Think*, the environmental humanities professor, Scott Slovic, reminds us of the importance of turning attention to alarming doomsday messages:

> In both private decision making and the formulation of public policy, we struggle today, in an age of relativism and social constructivism, to locate guideposts of "truth." Furthermore, although the news reports indicate that we live in an increasingly violent and volatile society, many of us no longer understand what it means to be in danger. Danger has, for the most part, become a muted, abstract phenomenon, likely to reveal itself only as a vague economic irritant or as a sudden, unexpected physical threat a flooding river, an avalanche, a sidewalk mugging. We are losing our ability to process warnings of all kinds, including environmental warnings, driven as we are into becoming ideologically intransigent interpreters of science and complacent recipients of doomsday messages (2016, 48–49).

Taking abstract and invisible dangers seriously is increasingly becoming a challenge, as Slovic notes here. To trust these kinds of threats would also mean trusting the people who warn of them. Nonetheless, this does not mean these vague or unseen dangers should require unquestioned and passive trust of the specialized authorities with titles and degrees in the fields of expertise. In the wake of this realization and others, we feel

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urged to explore perspectives, nevertheless their fictitious character, on how humankind may engage with the boundaries of the available knowledge amid possible doom. Similarly, various analytical methods enable the study of apocalyptic rhetoric across textual, visual, and aural media.

Philosophy and cultural studies offer rich theoretical frameworks for critically examining the limits of human knowledge, particularly in relation to the apocalyptic and environmental themes explored in the film, *Don't Look Up*. Michel Foucault's contributions surrounding concepts like knowledge, discourse, and power can be useful here. The French philosopher theorized that what we know and how we talk about things—our discourse—are shaped by power. According to him, power is not only about authorities or governments telling us what to do. It is everywhere, like an invisible web that influences what we consider true or false (Foucault 1972, 98). This power decides who gets to speak, whose knowledge counts, and thus what we think. In this view, knowledge is more than just discovering the truth; it is also about understanding who controls that truth and how it affects our lives. By studying how power and discourse work together, Foucault has allowed us to see that what we unquestioningly regard as 'common sense' might, in reality, carry complex and hidden forces shaping our world and hence the circulating texts we engage with. In this context, Foucault's ideas about discourse offer a framework that is both useful and still relevant for understanding and analyzing a range of texts.

In this light, Foucault's writings largely contribute to challenging modern distinctions and questioning the conventional categories we use to classify different types of discourse. In his *The Archaeology of Knowledge*, he asserts:

> Can one accept, as such, the distinction between the major types of discourse, or that between such forms or genres as science, literature, philosophy, religion, history, fiction, etc., and which tend to create certain great historical individualities? We are not even sure of ourselves when we use these distinctions in our own world of discourse, let alone when we are analysing groups of statements which, when first formulated, were distributed, divided, and characterized in a quite different way[.] [...] In any case, these divisions—whether our own, or those contemporary with the discourse under examination—are always themselves reflexive categories, principles of classification, normative rules, institutionalized types: they, in turn, are facts of discourse that deserve to be analysed beside others; of course, they also have complex relations with each other, but they are not intrinsic, autochthonous, and universally recognizable characteristics (1972, 22).

Accordingly, the conventional distinctions between different types of discourse such as science can be questioned. These divisions are not natural or universal but are instead constructed classifications shaped by historical contexts, institutions, and the ways people choose to organize knowledge. Since these categories influence how we perceive and analyze discourse, they themselves should be critically examined rather than assumed as fixed truths.

For Foucault, discourse refers to more than mere ways of speaking or writing; it is a system of representation that is produced by and reproduces power relations. Discourse influences what can be spoken about, how one can speak, who is allowed to speak, and from which position they can speak. In his *The Birth of the Clinic*, Foucault notes that the institutionalization of the medical gaze transformed clinical medicine by granting doctors authoritative power to observe, diagnose, and intervene within a structured system. He states, "[t]he clinic was probably the first attempt to order a science on the exercise and decisions of the gaze[.] [...] The medical gaze was also organized in a new way. First, it was no longer the gaze of any observer, but that of a doctor supported and justified by an institution, that of a doctor endowed with the power of decision and intervention" (2003, 89). In this way, discourse can be shaped by power relations—who is allowed to speak (doctors), from what position (institutional authority), and how their speech (medical knowledge) is legitimized—through systems of observation and classification.

In this sense, discourse controls access to knowledge and shapes society by maintaining or challenging power structures. The discourse of the educational institution, for instance, decides who has access to knowledge and how it is distributed, influencing societal structures. "Every educational system is a political means of maintaining or of modifying the appropriation of discourse, with the knowledge and the powers it carries with it" (Foucault 1972, 227). By determining what is taught, who teaches it, and who learns it, education either reinforces existing power structures or challenges them, shaping who has authority over discourse and knowledge in society. In connection with this, Foucault affirms his conception of knowledge:

> Knowledge is that of which one can speak in a discursive practice, and which is specified by that fact: the domain constituted by the different objects that will or will not acquire a scientific status (the knowledge of psychiatry in the nineteenth century is not the sum of what was thought to be true, but the whole set of practices, singularities, and deviations of which one could speak in psychiatric discourse); knowl-

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edge is also the space in which the subject may take up a position and speak of the objects with which he deals in his discourse (in this sense, the knowledge of clinical medicine is the whole group of functions of observation, interrogation, decipherment, recording, and decision that may be exercised by the subject of medical discourse) (1972, 182).

With this understanding, knowledge is not only a collection of facts; it is, rather, what is recognized as legitimate within a particular system of discourse. Knowledge then is shaped by the practices, ideas, and observations accepted in that field. Additionally, the person speaking about knowledge (like a scientist, doctor, or psychiatrist) does so from a particular perspective, based on their role and expertise in the field. In other words, what we consider 'true' or 'scientific' depends on the rules of a given time and place.

Foucault documents that "there is no knowledge without a particular discursive practice; and any discursive practice may be defined by the knowledge that it forms" (1972, 183). In essence, Foucault argues that knowledge does not merely explain or describe reality; rather, it actively constructs it through discourse. Knowledge, in other words, becomes a space in which the subject can occupy a place to talk about the objects involved in the subject's discursive practices. As a result, through the making of "docile bodies," as Foucault describes in *Discipline and Punish*, the body can be seen as a "political field" that is marked and formed by power relations (1995, 25–26). Knowledge, thus, is a set of statements placed side by side, where concepts are defined, used, or changed. It is determined by the possibilities of use and adaptation offered by discourse. In this way, knowledge is always tied to a specific way of speaking or practicing, and any practice is defined by the knowledge it creates. Similarly, science can be read as an element of discourse formation. "Science (or what is offered as such) is localized in a field of knowledge and plays a role in it. A role that varies according to different discursive formations, and is modified with their mutations" (Foucault 1972, 184). Therefore, science is a dynamic element within discursive practices, continuously changing as knowledge systems evolve and reshape meaning.

Whether 'scientific' or not, every narrative is embedded in a broader context, where discursive practices and circulating narratives are interconnected. In this sense, narratives are not mere neutral stories; they are instead shaped by the social and cultural frameworks in which they are created, actively constructing identities, power structures, and social norms. Just as narratives build meaning through discourse, science operates in a similar way. "Turning the sources of explanation on their heads,

Latour argues both society and nature emerge from a common source, in scientific practice" (as cited in Trexler 2015, 57). Hence, French philosopher and anthropologist, Bruno Latour concurs that scientific practices create both our understanding of nature and the way society is structured, making them intertwined rather than separate. Relevantly, science, as a social practice, influences the stories we tell about the world, shaping our understanding of both the natural world and human behavior, often blurring the lines between fact and interpretation. This interplay between discourse and knowledge extends to the platforms we use to communicate ideas. Just as discourse shapes science, the tools we use to share stories—whether TV, social media, books, or podcasts—further influence how narratives are told, who gets to tell them, and how audiences interpret them. For instance, social media can amplify marginalized voices but can also distort information through algorithms and sensationalism, as well as alter public perception. In this way, the stories we tell, whether scientific or fictional, are never isolated; they are shaped by language, culture, and the tools we use to communicate them, actively influencing how we make sense of the world.

Bruno Latour also challenges the traditional subject-object distinction, arguing that the interaction between humans and non-humans cannot be understood in isolated terms. Using the gun as an example, he highlights how both the person and the weapon contribute to the act of shooting, with neither being fully responsible on its own. Latour explains that "weapons kill people," as proponents of gun control argue, but "people kill people," say the opponents, each simplifying the complex interaction (1999, 176–77). Rather than viewing the gun as a neutral object or the person as the sole agent, Latour emphasizes the concept of "technical mediation" or "translation," where technologies like guns actively mediate and transform the intentions of the user into action. The gun's "program of action," or function, is translated into a new "program" when combined with the person's intent, resulting in a hybrid entity that neither person nor object can be fully reduced to (1999, 176). This view can be further explored through the idea of "scripts," where technologies are seen as inscribing specific actions or behaviors in the world, influencing human behavior in ways that seem both absent and present (Latour 1992). Thus, Latour rejects the subject-object divide and proposes that humans and non-humans act in unison, shaping each other's existence and actions.

In addition to the object-subject distinction, Latour proposes another distinction around how science is made. According to Latour's concept of "science in the making," scientific knowledge is actively constructed, as opposed to the finalized, uncontested facts presented in textbooks,

which he terms "ready-made science" (1987). By examining science in its formative stages, Latour believes we can gain a deeper understanding of how scientific facts and technologies come to be established. Latour notes that when we trace back from established facts (black boxes) to their recent past, we encounter "uncertainty, people at work, decisions, competition, controversies" (1987, 4). By focusing on science in the making, Latour aims to demystify the creation of scientific knowledge, revealing it as a product of human endeavors, negotiations, and socio-technical networks. His approach to understanding science carries significant implications, primarily by advocating a shift in focus from "ready-made science" to "science-in-the-making." This shift implies that instead of viewing scientific knowledge as a collection of established facts, we should examine the processes through which this knowledge is constructed. This perspective challenges traditional views of scientific objectivity and highlights the intricate relationships between various entities in the production of scientific knowledge.

In her "Situated Knowledges," Donna Haraway critiques the notion of objective, neutral knowledge that claims to be universally valid. Instead, she proposes that all knowledge is situated, meaning it arises from specific social, cultural, and historical contexts. She rejects the notion of an objective, neutral "god's eye view," describing it as a "god trick": the false claim to see everything from nowhere (1988, 582). Instead, she advocates partial perspectives, asserting that they offer a more accountable form of knowledge. Haraway writes, "[o]nly partial perspective promises objective vision" (1988, 583). This idea emphasizes that recognizing one's positionality is crucial for producing more reliable knowledge. Haraway encourages using critical theories not to dismiss reality as subjective or fragmented, but to develop richer, more responsible forms of knowledge that acknowledge complexity and positionality. She adds, "We need the power of modern critical theories ... not in order to deny meanings and bodies, but in order to build meanings and bodies that have a chance for life" (1988, 580). Haraway asserts, then, that modern critical theories — particularly those that analyze language, power, and social structures — are essential tools for creating knowledge that is meaningful, responsible, and sustainable.

When applied to film, concentrating on the particular usage of "discourse" may help us uncover underlying meanings and reveal how power and knowledge are constructed within the narrative. Foucault has been a leading theorist concerning the "'disciplinary' character of modern institutions, practices and discourses. In particular, the 'regimes of truth' (what counts as truth) of modernity involve relations of power/knowl-

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edge" (Barker and Jane 2016, 102). This angle enables us to delve into the content of narratives as part of a larger cultural conversation that involves the discursive formation of certain disciplines and subjects. "Knowledge is formed within the practices of power and is constitutive of the development, refinement and proliferation of new techniques of power. Hence the analytic term 'power/knowledge'" (Barker and Jane 2016, 104). Put differently, it is not in spreading scientific information where power lies but in the notion of science itself as a body of knowledge production; as such, a discourse that produces scientists who then can produce the scientific information as objective information that provides the 'right' ways of dealing with emergent problems. This theoretical outlook allows us to reinterpret *Don't Look Up* through a frequently overlooked lens. In the film, the system of knowledge, as a form of discourse, generates power in society for those who hold power, while also shaping knowledge about those who lack it. This Foucauldian reading allows us to analyze *Don't Look Up*'s representation of science and scientists more thoroughly when scientific discourse takes on the role of knowledge as power in times of apocalypse.

Human Indifference to Science and the Apocalypse in *Don't Look Up*

In many films, science and scientists are frequently portrayed as embodiments of reason and progress. These portrayals highlight how science can serve as a positive influence, helping to solve problems and bring about changes that benefit communities and humanity as a whole. In doing so, these films also illustrate how non-scientific factors—such as the role of politicians, media, and even the public—can contribute to manipulating emotions and spreading misinformation. In this regard, *Don't Look Up* brings to view this compelling contrast between the rationality of science and the human indifference to the apocalypse. Through their attitudes, words, and actions, many of the characters in the film, as most literature suggests, demonstrate a collective indifference to the impending apocalypse even when it is supported by solid scientific evidence. As we attempt to analyze how science is used as a discourse of knowledge and power, we begin by examining human indifference to science as depicted through governmental management, technological enterprises, media sensationalism, and the public's reception of apocalyptic news.

The character of President Janie Orlean is an antagonist who distrusts experts regarding the approaching comet. For example, she prioritizes attending a birthday party over listening to an extinction-level warning by

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a group of scientists. She causes them to wait for several hours outside her office at the White House with no apparent sense of urgency. This lack of concern is further displayed when a Pentagon representative waiting with the scientists abruptly leaves after receiving a message on his cell phone, notably showing a lack of worry about the impending disaster news. The President and the rest of governmental officials continue to downplay the severity of the situation, distracted by a scandal involving a Supreme Court nominee. Later when Dr. Randall meets with the president and warns "there's 100 % certainty of impact," a member of the group suggests they label it as a "potentially significant event" (McKay and Sirota 2021, 20:09), the President agrees, "call it 70 % [...] You cannot go around saying to people that there's 100 % chance that they're gonna die." Following this, Dr. Oglethorpe, NASA's head of planetary defense, stresses the gravity of the situation and urges immediate action, yet the President remains more concerned with the timing and the upcoming midterm elections, stating that "at this very moment, I say we sit tight and assess." This response reveals a troubling governmental indifference to serious threats, even when backed by scientific evidence.

The President, initially dismissive of the scientific warnings, shifts her stance when she realizes that her political future is under pressure, especially after being implicated in an immoral activity. Sensing the potential to turn the crisis news to her advantage ahead of the midterms, she decides to act on the comet threat. To do that, she frames herself as a heroic figure poised to save the planet by starting a mission to destroy the comet. To captivate the public further, she enlists a charismatic man to sacrifice himself at the launching ship. This is performed in this manner to appeal to the emotions of the public, transforming the impending disaster into what Douglas Kellner calls and is now commonly known as a media spectacle (2009). This quickly becomes a trending topic on social media, with lots of people starting selling and buying products to prepare for the apocalypse, others sharing videos of their anxieties, and some creating memes, or writing clickbait blogs about the event. However, when the highly publicized and costly launch mission to destroy the comet fails, it raises doubts about the competence and reliability of those in charge. This response underlines a notable cynicism of leaders who, in the face of ecological apocalypse and alarming scientific warnings, prefer to exploit the crisis to further their political interests. This highlights that a significant part of the problem lies not with the scientists delivering the warnings, but with the governmental mismanagement of global crises.

The two scientists, Dr. Randal and the doctoral student, Kate, struggle to convey the urgent news to a public more captivated by entertainment

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than by alarming facts. To reach a wider audience, the two appear on the popular Daily Rip Show, only to find their critical message overshadowed by sensational stories, such as the breakup and reconciliation of a celebrity couple. Before going on air, Dr. Randal and Kate are instructed to lighten their message, as the producers believe people respond better to entertainment than to serious information, even when the stakes are incredibly high. When the host casually asks if the comet would destroy a single house, Dr. Randal responds, "It's somewhere between six and nine kilometers across [...] It would damage the entire planet. Not just a house. The entire planet." Despite this straightforward dire warning, the host remains unfazed, joking about whether the comet might hit his ex-wife's house in particular, demonstrating his failure to grasp the gravity of the situation. Even when Kate strives to stress the seriousness of the impending disaster, the hosts continue to downplay the news, with one admitting, "we just keep the bad news light [...] it helps the medicine go down." As a result, Kate's pleas to convey the urgency and terror are dismissed, leaving the scientists looking like mad alarmists rather than credible experts. This illustrates how media platforms participate in trivializing serious issues, feeding public indifference.

In addition to the media, advanced technology not only shapes how people in *Don't Look Up* feel but also influences important decisions. The film shows how technological progress can sometimes disguise information and sway the emotional reaction of the people in unexpected ways. Renowned tech experts in the film contribute to manipulating the public through a technology that controls how people experience and respond to their environment. As the CEO of Bash LiiF Tech, Peter Isherwell introduces the Bash 14.3 Phone. This device is designed to integrate with human emotions and respond to 'unwanted' human feelings like fear, loneliness, and sadness by presenting cheerful and satisfying content on the new phone. This breakthrough in technology suppresses and distorts natural human emotions, making it more challenging for individuals to confront and process alarming news. By framing fear and sadness as negative and undesirable, Isherwell promotes a society where people escape from uncomfortable and depressive thoughts through distractions, rather than facing or accepting them.

Technological advances, divorced from ethics, can pressure government decisions and manipulate public perception to shape a particular version of the truth. In the film, Isherwell and the US president orchestrate a fake accident to postpone dealing with the comet that is set to destroy Earth. Their underlying objective is to mine the comet for its estimated $32 trillion in valuable resources. Isherwell's alternative plan involves using

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advanced, yet non-peer-reviewed technologies, to break the comet into smaller pieces and redirect them into the Pacific Ocean. This plan, touted with a grand vision of technological salvation, is encapsulated in Isherwell's words. At 01:13:16, he claims, "when these treasures from heaven are claimed, poverty as we know it, social injustice, loss of biodiversity, all these multitudes of problems are just gonna become relics of the past and humanity is gonna stride [...] into the glory of a golden age." These declarations mirror Isherwell's humanitarian guise to promote ideas that support his technological expansion and the interests of the politicians who support him. In this sense, technological advancements can be used to manipulate and influence governmental actions and shape public perception, all while concealing dangers and maintaining control over the narrative.

Overall, the movie seems to emphasize the importance of trusting scientific expertise as a preference over other sources of information, such as the government, media, or tech enterprises regarding the impending comet. In the film, the president addresses the public, who hear news about the comet becoming visible in the sky, stating, "and do you know why they want you to look up? Do you know why? ,Cause they want you to be afraid." She then starts a "don't look up" movement as a form of skepticism and resistance, opposing those who want to promote their "apocalyptic" agenda. Against the context of the emerging two parties the following questions are raised: Which movement is right? Which one should people follow? Should the public trust the message that everything is under control and disregard the warnings of 'fearmongers,' or should they believe that the end is near given it is based on scientific methods and calculations? Immediately after the two campaigns are presented and two questions remain unanswered, the answer seems to be revealed in the film through a song that expresses, "listen to the goddamn qualified scientists." Here, the movie appears to affirm science as the ultimate recourse when suspicion takes place. It portrays science as a reliable source of knowledge that people should stop ignoring, "come to their senses," and turn to for clarity.

Science as a Discourse of Knowledge and Power in *Don't Look Up*

Don't Look Up not only conveys a manipulation of the public opinion and how their indifference is fueled through the government, media, and technology but may also reaffirm science as a means of shaping discourse,

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determining and generating knowable objects in a coherent manner, while dismissing alternative ways of reasoning as irrational or invalid. Hence, the way science and scientific expertise are situated in the film invite critical interrogation. The narrative subtly urges viewers to abandon their disbelief in science, implying that the apocalypse might have been avoided had scientific advice been heeded. In this way, the depiction of public indifference is used as a form of scapegoating that enables blaming a particular subject or issue — disbelieving a global threat. This justifies a broader course for the viewers — maintaining science as a unitary form of reliable knowledge. Therefore, it is argued here that in the way the movie portrays foolish human indifference to imminent environmental threats, it, in reality, indirectly reclaims science as a discourse of knowledge where scientists are the go-to authorities to dispel credible information and corrective remedy to the 'ignorance' of the public. Accordingly, I attempt here to look closely into the knowledge-as-power that science depiction takes in the film.

Following the failure of the launch mission, Dr. Randal is called to attend an emergency meeting at the White House. Before he enters the meeting, Dr. Oglethorpe reminds him, "Science tells the truth, Randal." This statement conveys a strong belief in the ability of science to reveal objective facts about the real world. This reaffirms the idea that science is the accurate knowledge discipline that without it, other disciplines could be mere suppositions. This idea is further reinforced by depicting science as the remover of uncertainty and the public's final refuge for factual and reliable information. For example, when the public is confused about whether the comet is good or bad news, the one to clear confusion is the scientist. During a TV broadcast, host Brie Evantee, who is personally involved with Randall Mindy, addresses him with playful irony: "Randall, we're hearing that there is no comet, or that there is a comet but it's a good thing or maybe it's a bad thing. We are so confused. So, could you please help us out here, you know, oh, wise scientist?" Although the phrase "oh, wise scientist" is delivered humorously and is shaped by the characters' personal relationship and the lighthearted tone of the show, it nonetheless reinforces — albeit indirectly — the pattern of casting scientists as trusted arbiters of truth. Such statements suggest the societal expectation that scientists are figures of authority and rationality, especially in moments of uncertainty.

In this manner, the film seems to paint science as a moral compass set against the messiness of politics and the greed of business. Science is not produced in a vacuum, but rather deeply entangled with cultural, economic, and political forces as many scholars like Latour (1987) and Har-

away (1988) argue. In *Don't Look Up*, the scientist is depicted as someone who struggles for a higher cause, similar to a secular martyr, promoting the belief that science is free from human flaws or external influences, which is often referred to as the "myth of scientific purity." In other words, this suggests that science is not influenced by personal or social factors, when in reality it often is. Scientific research may serve particular interests, whether through funding, policy, or the stories we tell about progress. Daniel Sarewitz's *Frontiers of Illusion* supports the view that science is not an autonomous force that naturally brings societal benefit; rather, it is deeply influenced by political, social, and economic contexts. As Sarewitz notes, "The societal value of science and technology is created at the interface between the laboratory and society; it is inherent in neither alone" (1996, 9). This argument undermines the notion of science as a 'pure' or inherently beneficial enterprise. From this viewpoint, one can observe that the film's portrayal of science might be less about how science works, and more about our desire to believe in something stable and true. Rather than challenge the myth of science as *above* politics, the film seems to reinforce it, offering comfort over complexity.

These perspectives are further noted in how the film portrays the scientist as someone who stands apart from the confusion and ignorance of society, offering a sense of wisdom and clarity that most people lack. While the rest are preoccupied by distractions, the scientist is portrayed as a guiding light, and good samaritan. Using their knowledge discourse, they are characterized as surpassing the folly of the masses. For example, when trending news on social media circulates about two media personalities singer Riley Bina and DJ Chello breaking up, both Dr. Randal and Kate express that they either do not recognize those individuals or simply do not care about their news. In a perhaps somewhat scathing manner, this scene offers up the idea that scientists are most of the time detached from social media sensationalism. This suggests to the viewers that scientists are less likely to be distracted by 'trivial' matters. Instead, they are more likely to be committed to the broader well-being of society and humanity. This subtly informs the public that scientists are, as a consequence, the most suitable to navigate grave events and uncertain future scenarios.

When the comet presents a business opportunity for the BASH company, the latter relies on a scientific discourse to further their business interests and exploit the fears and emotions of the public. Dr. Randall is also used by the company to serve this purpose. Although he comes across as an awkward scientist who needs communication training and faces difficulty moving through media hype, he has, nonetheless, stepped

up to support Bash's plan to manage public fear by joining their media campaign. In this way, he is used as a public symbol and stereotype of the trusty scientist that deals with dilemmas and assures the public that they are safe. As a consequence, Dr. Randall becomes a scientist who no longer tells the truth, but instead presents a version of it that aligns with the company's interests. When BASH Cellular, in conjunction with the US government, creates a new hotline, free of charge, to answer all of the worried public's questions, Dr. Randal in the ad declares, "and who knows? Maybe, just maybe, one of our scientists [showing a mother feeling relieved after the call with one of the scientists] can be that friend we all need to lean on during uncertain times." This highlights how scientists have been employed to calm callers and reduce their anxieties about the apocalypse. Thus, science turns into a discourse that feeds a kind of societal anesthesia towards impending global catastrophe.

Using science under the pretense of logic and serving the common good of humanity, large business companies can also modify the scientific discourse itself to better align with their business preferences. As BASH's alternative plan progresses, Dr. Randal begins to suspect unethical practices and discreetly confronts the CEO of the company about them. He confronts Peter Isherwell with the fact that many of his colleagues have either been removed or have resigned from the project. Insisting on ensuring the scientific soundness of the project, he also seeks reassurance that they are open to the peer-review process and not approaching the mission with a business-oriented mindset. However, Isherwell, seemingly offended, questions whether Dr. Randal sees them merely as a businessman, emphasizing that the project represents the evolution of the human species, not just business. Isherwell then reveals, at 01:25:40 having extensive data on Dr. Randal—including his health details and personal motivations—accurate information about how he will die. As this conversation illustrates, science is used to advance BASH's business interests, compromising core scientific practices like the peer-review process. This suggests the company's tendency toward profitability, intellectual intolerance, and authoritarianism. Isherwell's dismissal of genuine scientific concerns, using personal data and predictive algorithms, mirrors how large tech companies can exploit the facade of scientific progress to maintain control and suppress dissent.

Another point highlighted in the film is the inclination of science and scientists toward rationality and logic over storytelling. When Kate, Dr. Randal, and Dr. Oglethorpe decide to leak information about the approaching comet to the media, Dr. Randal gets anxious since this is not something he usually does. He is a lab scientist who lacks expression skills and media

training. Nevertheless, Dr. Oglethorpe senses his discomfort and reminds him, "you're just telling a story. Keep it simple. No math." Dr. Randal then responds, "but it's all math." The latter's focus on mathematical detail hinders his ability to shape a narrative and communicate effectively with a broader audience. However, this characterization suggests to viewers that science merits greater consideration, especially when it lacks popular appeal or an entertaining style. As the narrative seeks to reassert, scientific disciplines tend to prioritize rigor, unlike stories, which appeal more to emotions than reason. This supports the film's underlying idea that science is grounded in mathematics, not storytelling, and that stories can distract people from listening to logical, sound scientific reasoning. Opposing the use of stories to improve public communication subtly reinforces the idea of science as the discourse of power in times of crises.

While the comet in the film serves as a metaphor for climate change, it may overlook the uncertainty of the issue. Despite the scientific community's consistent warnings about climate change — increasingly evident in what people can see and feel — many remain passive, while others continue to dismiss it as a hoax. This division highlights the complex nature of how climate change is understood and discussed. Concomitant with this, one could also point out that the film's metaphor oversimplifies or misrepresents the uncertainty of climate change. The future impacts of climate change are still debated among scientists, indicating that the issue is not black-and-white. For example, the widespread use of outdated and extreme climate scenarios, particularly RCP8.5, has been critically examined by Roger Pielke Jr. and Justin Ritchie (2021), who suggest that this scenario no longer represents the most likely future but remains prevalent in media and policy discussions. RCP8.5 continues to be treated as the baseline scenario, which has contributed in distorting climate research, policy-making, and public perception by exaggerating potential impacts and endorsing alarmist narratives (Pielke and Ritchie, 2021). This highlights the need to critically assess how climate risk is framed, acknowledging science's diverse perspectives and the persistence of compelling but sometimes inaccurate narratives.

It is also important to note that the film's depiction of scientific authority appears to endorse a form of governance resembling epistocracy. This alludes to what Roger Pielke calls the "linear model" of policymaking, where scientists provide facts and politicians are expected to simply follow them, ignoring the important role of values and political judgment (2007). By presenting the threat as absolutely certain and catastrophic, the film appears to shut down other meaningful discussions about different values or priorities, suggesting that anyone who questions science must

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be 'foolish' or 'ignorant.' Pielke notes, "[p]eople can debate policy options through science without ever making their value commitments explicit. They can hide them behind science" (4, 2007). This downplays the genuine uncertainties in climate science and could harm the open, constructive conversations we need. Science cannot serve as a straightforward moral guide without recognizing the political and ethical complexities involved (Dotson, 2020). That is, our treatment of issues should not be done in a way that leads the public to passively agree on what to do only because there are looming threats. In situations like this, 'experts' do not always have clear answers, and their advice may change over time. For these reasons, while scientific knowledge is essential, it should inform policymaking as one important factor among many; not as the sole authority.

The final 'family dinner' scene in *Don't Look Up*, and especially the presence of Yule, further reveals how the film continues to frame science as a discourse that claims innocence and moral authority. At the table, the scientists are calm and composed, as if their responsibility ended with delivering the warning. Science is shown as having done its job perfectly, so to speak. It predicted the catastrophe, but the public along with the political and corporate elites failed to act. Yule's quiet prayer, coming from a character who struggled with faith, signals that when science no longer offers hope, all that remains is a desperate return to religion. Nonetheless, faith here is indirectly portrayed as ineffective, an only remaining act of comfort rather than a real alternative to rational knowledge. This scene does not question the authority of science but reinforces it, suggesting that humanity's downfall lies only in its refusal to listen to scientists. By showing science as detached, correct, and morally untainted, the film invites viewers to see scientific knowledge as something to be accepted without critical engagement. Yule's prayer, instead of opening space for other ways of understanding or resisting, marks the final collapse of alternatives: When science speaks and people fail to respond, nothing is left but passive acceptance and spiritual surrender. In this way, the film seems to turn science into a discourse of unquestioned authority, urging future audiences to trust and conform rather than to think critically about how science itself operates within power structures.

To conclude, making use of the concept of 'discourse' has helped us explore some underlying meanings of the science surrounding the environmental apocalypse in *Don't Look Up*. Viewing the role of science as a discourse has allowed us to question the seemingly innocent representation of science and scientists in the film. One may assert that the latter generally depicts a society engrossed by apathy toward scientific warnings and vulnerable to the decisions of state and tech authorities driven

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by political and profitable interests. This perspective allows the film to be understood as interrogating the political mismanagement, media sensationalism, and public apathy toward the apocalypse. However, a discourse-oriented reading suggests that the film's portrayal champions science as the primary rhetoric for knowledge. More specifically, the narrative tends to center scientific expertise while construing the public as lacking agency, particularly in critical contexts. Thus, the film *Don't Look Up* portrays science as the central authority, masking its role in enforcing power and dominance over the public.

It is hoped that this article will not be interpreted as promoting skepticism or passivity toward science during global crises. By contrast, baseless suspicion of science and scientists would be much, like in the film, a hindrance rather than a facilitator if the aim is to mitigate environmental predicaments. The same goes for any neglect of knowledge that scientists spread about global issues like climate change, as it only contributes to aggravating the situation. What this article intends, however, is to invite us to look critically into science as much as any other discourse of knowledge and power. Science and scientists are not immune to faults, not because they fail to be accurate all the time, but because they may also be employed and manipulated by those who take sensitive positions to dictate the fate of our nations, whether they are scientists or not. Perhaps the core issue is not which form of knowledge or group of experts is entrusted with anticipating crises and saving humanity during doomsday events. Many environmental threats are already taking place and how we approach them depends a great deal on how we gather knowledge from more than a single discourse. Unitary discourses of knowledge are particularly prone to reinforcing the power-knowledge relationship identified in Foucault's analysis. They shape how information is represented and positioned within power structures through dominant knowledge systems, while excluding alternative forms of knowledge. To address this, one approach is to exercise more caution with science, while another is to broaden the conversation to include a range of disciplines in confronting the challenges ahead.

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Apocalyptica
No 1 / 2024
Nasreddine EL Guezar:
Science as a Discourse
of Power in Apocalyptic
Times in the Film *Don't
Look Up*

Timo Storck

Growing Up(side Down): Impending Doom and the Fight Against Otherworldly Monsters as Narrative Devices and Imagery in *Stranger Things*[1]

Abstract: From a psychoanalytic perspective, the streaming series *Stranger Things* not only portrays the battle against otherworldly monsters or the threat posed by concrete political or demonic enemies but also explores the struggles of particular groups' own respective monsters. The present contribution delves into how children grapple with the loss of naivety and the awareness of life's finiteness, how adolescents confront sexuality and concomitant feelings of guilt, and how adults cope with the pain of letting their children go into the 'next,' adult world. These themes are discussed through a psychoanalytic examination of the series, concluding with some brief remarks about the potential contributions of psychoanalysis/psychology to the study of (post-)apocalyptic thinking.

Keywords: growing up, sexuality, generations, integration, Stranger Things

Introduction

The streaming series *Stranger Things,* created by the Duffer Brothers, stands among the most successful of recent years. Set in the 1980s in the (fictional) small town of Hawkins, the show explores the threat of mon-

ster-like entities from the 'Upside Down,' a demonic parallel world, against the backdrop of the Cold War and US fears of a Russian threat. Beyond its intertextual references and 80s nostalgia, the series focuses on three boys in their quest for a missing friend, encountering a girl named Eleven (El). The group expands, albeit less homogenously, and involves teenagers and adults who join the fight against evil. Thus, the series not only provides a level of 80s nostalgia but also offers viewers a sense of identification on various levels.

Stranger Things also provides numerous points of connection concerning apocalyptic threats; addressing a tangible demonic threat from a parallel world that could impact and ultimately bring down the entire world. It also touches on the nuclear threat linked to the Cold War revealing a connection to existential fears and apocalyptic thinking (see Jaspers, 1958, for the discussion of a "universal limit situation" in the face of both nuclear and totalitarian threats).

Apocalyptic thinking or transformation (e.g. Stümer&Dunn 2024) encapsulates both apocalyptic 'themes' and 'content,' and is therefore not limited to concrete instances such as the consequences of climate change, nuclear threats, pandemics, etc. In more general terms, apocalyptic thinking centers around the revelation of an *end of time* and — post-apocalyptically — about living in the face of finite time. Moreover, in apocalyptic and post-apocalyptic narrative, one can recognize a particular narrative style, that is, a specific handling of temporality in which the effects of events have an impact on each other within a non-linear, e.g. back-and-forth or circular, temporality (see Storck, 2025).

Apocalypse and post-apocalypse are central tropes in *Stranger Things*, however, they primarily provide a general framework for telling a story and addressing themes that, in themselves, are not typically labeled as (post-)apocalyptic (even though that might change in season 5). Therefore, my aim is to focus more on individual themes shared by several characters within the series, rather than examining *Stranger Things* from the perspective of a more or less global threat to the (Western) world. In an apocalyptic sense, it is more intriguing to explore not the question of the world's demise by monstrous powers but to examine for which other tropes the apocalyptic narrative is being employed.

I propose that, in *Stranger Things,* different generations (children, teenagers, adults) each fight their own 'monsters'; monsters that are specific to these developmental stages and that are related to sexuality, anxiety, guilt, mourning etc[2]. As the show's focus is clearly on the world of children and teenagers, I would like to develop and substantiate the claim that growing up is presented as the strangest thing of all, and that

2 This proposition is in fact the result of a psychoanalytic interpretation whose methodical steps will be laid out more clearly later in this article. I start with proclaiming my main thesis in order for readers to better follow the train of thought. That is, however, not to say that the aforementioned proposition guided the collection of 'irritations' from the outset.

one can think of invading monsters in terms of the often terrifying mental and emotional challenges that come about in certain stages of life. At this point, for methodological reasons, I limit my argument to that. In the following, I will draw on a specific psychoanalytic research methodology (as did Cornell 2019, or Lu et al. 2022, concerning *Stranger Things*, albeit from a different vantage point) which will allow me to decipher a structure of latent meanings and to explore which story is being told within the framework of an apocalyptic narrative.

This approach includes, at the outset, a 'dimming' of pre-existing scholarly knowledge about the show, e.g. existing works that tackle how themes like childhood development, gender and sexuality, or geek culture, are depicted in *Stranger Things*. I shall come back to these themes, yet only after having followed a specific methodological path which I will briefly explain in the following.

On Method

Psychoanalysis, as defined by Freud (1923a), is not solely conceived as a treatment method for mental disorders; it is also seen as a general theory of the mind and as a general methodology. This allows for the formulation of a so-called "Applied Psychoanalysis" (e.g. Akhtar & Twemlow 2018), implying its applicability not only to the clinical setting but also to the social and cultural sphere.

In my view, film psychoanalysis should avoid two pivotal pitfalls (and has not always succeed in doing so). First, psychoanalysis should bear in mind the role of the specificity of artistic form or mediality. An interpretation needs to take into account that something is "more" than a narrative or that form stands in relation, even opposition to content (e.g. an interpretation of Thomas Mann's (1912) *Death in Venice* as a novella will most likely arrive at different interpretative strands than an interpretation of a movie that is made out of it). Second, psychoanalysis should not 'apply' theory as in merely pointing out in a re-ification or naturalization that certain psychoanalytic concepts can be found in a work of art (or can be found illustrated in these). It is not about merely explaining something in the light of psychoanalytic theory but to immerse oneself in a relation to a work of art in a way that will come as a surprise, as something not foreseen, to the person interpreting as well. Because of that, psychoanalytic film interpretation, methodologically analogous to clinical work, grounds itself in a stance of 'evenly suspended attention.' This should also make clear why the 'dimming' of pre-existing scholarly work is essential to this

approach. By this, it is also stated that one cannot simply 'find' psychoanalytic concepts 'within' a work of art but rather take theory into account when trying to find a model that helps us to understand the tensions between manifest and latent structures; as has been made clear by Lorenzer (1986) in his take on "depth-hermeneutical cultural analysis." Applying psychoanalysis thus means to apply a certain type of relation to a work of art or social processes. Crucially, this involves a transfer of method, not a transfer of theory. The focus is not on 'finding' oedipal conflicts or the like in a work of art but rather on approaching a work of art or a societal process through psychoanalytic method.

The psychoanalytic method involves entering into a relationship with another person and exploring the characteristics of that relationship, involving unconscious dynamics. This means taking into account one's own internal reactions such as emotions, thoughts, fantasies as well as developing hypotheses to understand what is at play. In the consulting room, this involves the examination of what is called 'transference' and 'countertransference' in psychoanalytic theory, based on the assumption that certain internalized patterns of experiencing ('object relations') on the part of the patient are repeated within the therapeutic relationship, which gives the analyst a glimpse of that which is unconscious. This unconscious re-enactment of internalized patterns is referred to as a 'scene' through which a patient's inner world can be understood, a prerequisite for processes of mental change (Lorenzer 2016). Psychoanalytic interventions aim to initiate a process, with interpretation being the most crucial form of intervention, targeting previously unconscious representations or processes (Storck 2016).

If we extract this epistemological approach, briefly outlined here, from the treatment room and transfer it into other areas (Storck 2024, for film; Hamburger 2024), it remains crucial to explore the relationship between the interpreter and the referent. Again, similar to the clinical setting the observation of one's own emotional responses to, for example, a film, and treating them like a reaction within an interpersonal encounter, remains pivotal. Hence, one can speak of the film as a 'quasi-subject' and the relationship during reception as a 'quasi-intersubjective' one. In line with Lorenzer (2016), this can be called "scenic understanding" ("understanding the scene"). For a cultural product like a film, it is the tensions between latent and manifest meanings that present as 'irritations' of the recipient, that is the person who is watching the film or the series (Rothe, Krüger, and Rosengart 2022). These irritations can serve as the starting point for interpretation. Such interpretation becomes psychoanalytic when it leads to some kind of public dissemination (e.g. written publications or

oral discussions), meaning that there is supposed to be an opportunity to respond within a public, social discourse (Storck 2024). Therein lies a correspondence to the function and impact of interpretation in clinical psychoanalytic processes. Put briefly: In a film psychoanalytic interpretation 'irritations' are noted and collected. Since these are seen as those points where manifest content or form stand in conflict with latent structures (that is, something that cannot simply be stated or shown directly due to its unsettling nature), irritations can be interpreted in terms of unconscious meanings. These are "inserted" into those gaps in understanding that the irritations marked, so that tentative interpretations of latent structures become possible.

It should be noted that the methodology described and employed here is, of course, different from Lacanian film psychoanalysis (see McGowan 2007) — as it also is from structural psychoanalysis in a clinical sense as well — which more prominently highlights the role of the gaze which has been picked up in film theory. The framework presented here has nonetheless also strong ties to film theory, most prominently to the works of Stiglegger (e.g. 2024).

A film-psychoanalytic study essentially involves a study of aesthetic responses to a work of art as such. This means examining the viewer's relationship with the film as a whole, not just with individual characters and not solely referencing cinematic narrative but the film as an entity, that is also constructed in formal terms and in itself structured in a relational manner (by means of the relationships between characters, but also relationships between perspective, lighting, sound, editing and narrative, etc.).

To provide a brief example from *Stranger Things*: In episode 2 of the first season Nancy and her friend Barb attend a party at Nancy's boyfriend Steve's house, who is considered a 'player.' His parents are not home, there's a pool in the garden, beer is being consumed, and loud music is playing. Ultimately, through parallel editing, it is shown how Nancy and Steve have intercourse (it's her 'first time'), and Barb, sitting by the pool, is abducted into the demonic otherworld of the 'Upside Down' by a creature called the 'demogorgon.' Here, we find relationships between images, characters, and narrative strands that, drawing on an observation of the emotional impact of the film on the viewer, reveal something: the 'first time,' that is, entering the world of genital sexuality, turns the world upside down, evokes powerful affects of fear, and might mobilize feelings of guilt, and threatens one to disappear into an otherworld.

Following this methodological outline I will now first briefly recap the major plotlines of the show (as part of a 'protocol' of that which is to

be interpreted) before I sketch three subjective 'irritations' in my filmic reception that will function as a starting point for interpretation.

Stranger Things, Season 1–4

Stranger Things has been released since 2016. It currently comprises four seasons with a total of 34 episodes, and a future fifth season is planned to conclude the series in 2025. The show was created by twin brothers Matt and Ross Duffer (born in 1984). The series predominantly narrates events in the fictional U.S. town of Hawkins, Indiana, and centers around a group of friends (Mike, Dustin, Lucas, and Will) who are around 10 years old at the beginning of the series setting in November 1983. The storyline unfolds with the disappearance of Will and the escape of the same-aged girl Eleven (El) from the local Hawkins Lab.

In the first season, Will Byers is pursued and abducted by a monstrous creature in his home following an extensive session of playing the Pen and Paper Roleplaying Game *Dungeons and Dragons* with his friends. He disappears, prompting his three friends, local police chief Jim Hopper, and his older brother Jonathan to search for him. Meanwhile, his mother Joyce waits in the house for a message from him or his return. Simultaneously, at Hawkins Lab, a somewhat opaque and shielded research facility on-site, employees are attacked by a creature. Additionally, a similarly aged girl escapes from the facility. Initially not speaking, she appears highly frightened. She encounters Mike, Lucas, and Dustin, who nickname her "El" because the number 11 is tattooed on her forearm. Mike's sister Nancy dates Steve, the coolest guy in school. Through a radio and El's apparent supernatural abilities related to her time in Hawkins Lab, it is revealed that Will is alive but hiding from the monster (Demogorgon) in a parallel world (the Upside Down) and gradually losing his life powers. Chief Hopper follows a lead to Dr. Martin Brenner, the head of Hawkins Lab. Flashbacks reveal that El refers to him as "Papa" and that she was trained and subjected to experiments in the laboratory.

El becomes part of the group of friends who discovers that Will is trapped in the "Upside Down". It is revealed that a significant amount of energy is required to create a portal to switch between worlds (and it turns out that in the past, El was the one who allowed the Demogorgon to enter the world at the point Hawkins). In the season finale, Hopper and Joyce succeed in bringing the weakened Will back to the 'real' world, and the children, primarily El, manage to defeat (but only to expel) the Demogorgon. El disappears after the battle. While Will is saved, we see

him experiencing visions of the Upside Down and regorging something that appears to be a part of the Demogorgon.

In season 2, the central monster is the Mind Flayer, who can possess and control humans, including Will. The half-siblings Billy and Max(ine) move to Hawkins. Max becomes part of the group lead by the four boys, while Billy engages in a competition with Steve to determine who is the coolest in high school. Nancy and Steve are now in a relationship. It is revealed that the presumably disappeared El has taken refuge in a cabin belonging to Hopper, who hides and protects her because she is being sought by the government and intelligence agencies. Dustin discovers a small worm-like creature (which he names "Dart") and raises it; later, it is revealed to be a baby Demogorgon. Hopper, through drawings made by the possessed Will, discovers an underground tunnel system beneath Hawkins where the Mind Flayer controls monstrous creatures in a swarm intelligence. In Hawkins Lab, Joyce and others are attacked by monsters controlled by the Mind Flayer (meanwhile, the possessed Will acting as a spy for the Mind Flayer by communicating the whereabouts and plans of the others). After finally reuniting with the group, El manages to close the dimensional portal, allowing the individual monsters to be burned. However, it becomes clear that the Mind Flayer continues to exist in the Upside Down. Hopper makes a deal with a former employee of Hawkins Lab, resulting in El obtaining a new passport as Jane Hopper, his daughter.

In season 3 (set in the fall of 1985), Mike and El start a romantic relationship, as do Lucas and Max, much to Hopper's displeasure. Overall, more adolescent themes emerge, including romantic relationships and conflicts that lead to alliances forming among the girls (El and Max) and the boys (Mike and Lucas). Will remains somewhat on the sidelines and, after a dispute with his friends, angrily destroys his hideout in the woods, a place he frequented as a child. Steve and his colleague Robin investigate a Russian message intercepted by Dustin. They discover that Russian agents and military personnel are operating in Hawkins. Max's brother, Billy, is attacked by a monster one night and becomes possessed by it (later it is revealed that painful childhood memories make him particularly susceptible). He attacks and murders more victims, spreading the possession like a virus, turning more Hawkins' residents into zombie-like creatures. Steve and Robin, joined by Dustin and Lucas's sister Erica, combat the Russians, revealing that these intend to exploit the special powers (and monsters) in Hawkins for their purposes. They ultimately succeed in defeating the Mind Flayer, but only by the group working together. In the attempt to close the dimensional portal, Hopper is seemingly killed.

Season 4 is set in March 1986. Joyce has moved to California together with Will, Jonathan and El, while Mike, Dustin, Max, and Lucas, along with Nancy, Steve, and Robin, remain in Hawkins. It is revealed that Hopper has survived but is held captive in a Russian prison. Joyce, along with Murray, who has appeared in previous seasons as knowledgeable about Russian language and intelligence logic, travels to Russia and ultimately succeeds in freeing Hopper. In the process, they must fight Demogorgons bred and used for combat by the Russians in the prison. Meanwhile, in Hawkins brutal murders occur, falsely attributed to Eddie, an older student who led a *Dungeons & Dragons* group joined by Mike, Dustin and Lucas. The trail leads to a haunted house where Victor Creel allegedly killed his family in the 1950s. However, it turns out that Henry, the family's son, killed his mother and sister. Flashbacks recount El's fate during her time in Hawkins Lab. She had an older boy, 001, as a mentor, who eventually appeared to help her escape. El has flashbacks to scenes that suggest she committed mass murder in Hawkins Lab. Eventually, it becomes clear that 001 is Henry, the boy who killed his family and became Vecna, the monster villain fought against in this season, residing once again in the Upside Down. Vecna targets El, intending to kill her through the threat to her friends. Max plays a significant role, being vulnerable due to negative feelings (in her case, grief over Billy who sacrifices himself to help the others defeat the Mind Flayer in season 3), as do the other victims. El, abused by Dr. Martin Brenner, the former 'Papa,' with the purpose of investigations into her powers and memories, eventually breaks free from her past with Brenner. Finally, she defeats Vecna, Max is in a coma after an attack, and Eddie dies during the fights. Through the murders, Vecna opens four dimensional portals/gates and destroys large parts of Hawkins before being defeated; although, not yet not killed. The season closes with images of Hawkins turning into the Upside Down.

The series, in its settings, resembles a museum of the 1980s, a nostalgic reminder of *Dungeons & Dragons* (Demogorgon, Mind Flayer, or Vecna are all characters from the in-game world), the music of the time, furnishings, gender roles, and much more. *Stranger Things* is also rich in quotes from other films, not just from the horror genre. The performances, especially those of Winona Ryder as Joyce Buyers and the child actors, have been praised. It is noteworthy that, for example, the finale of season 4 alone lasts a whole 140 minutes. The series increasingly takes the liberty of spending as much time as necessary to tell the story as intended. Occasionally, criticism has been directed at the lack of originality behind references or nostalgia. Having presented this type of protocol I will now

turn to three subjective irritations, as disruptions of the evenly suspended attention in filmic reception.

Irritations

I have argued that a film-psychoanalytical study finds its starting point in personal 'irritations' in reception (indicating a tension between manifest and latent meanings). In this context, I understand an irritation as a condensation of emotional reaction, a focal point or navel (in Freud's terms 1900b, 525) of meaning and/or a 'breach' in understanding. This is considerably simpler with a film than with a multi-season series with an increasingly long runtime. I will nonetheless present three such irritations:

1. As mentioned, 80s nostalgia is prominent in *Stranger Things*. The series aligns with a trend in media representations in films and streaming series, which may also be related to the fact that those growing up in the 1980s constitute a significant viewer group. *Stranger Things* is rich in references, drawing from *Dungeons and Dragons*, movies from that era, and of course hairstyles, clothing, music, interior design, and more. A theme that *Stranger Things* particularly explores (and shares with other 80s-themed outlets) is the "missing child" trope (also central in *Dark*, another prominent series where the 1980s play a crucial role in the setting) and the group of friends who, through their cohesion and bond, combat evil (as seen in Stephen King's *It* (2017) and *Stand by Me* (1986)). The first irritation in terms of nodal points of meaning is thus referencing and storytelling in the light of other narratives, namely ones of loss or missing children.

2. Most notably, in season 1, it is striking how much the three generative groups (children, teenagers, adults) act separately on their own. There are recurring instances of 'stupid' decisions, actions of individuals or actions within a group that do not seem sensible or well thought-through. Wouldn't it be more sensible for the children to involve adults, seek their support, or comfort? Could the adolescents not share their knowledge of events with the adults for a shared understanding of what needs to be done to avert the threat? Why do the adults not notice what emotionally occupies their children and their experiences? This second irritation, in terms of a breach in understanding, thus refers to the irrationality that the 'partitioned' generative groups keep acting upon.[3]

3 As a short side remark: Strikingly, the grandparental generation is entirely absent in Stranger Things. This is even more striking given the fact that small town life in Hawkins is presented as something one usually does not grow out of. Grandparents, e.g. the 'elderly,' would have to fight the 'monster' of the end of individual life or of being able to look back onto one's life in a content way. This monster is obviously left out of the show.

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3. In *Stranger Things*, one has to look thoroughly to find a good father figure. Even Hopper, who comes closest to this, is marked by problematic paternal aspects. He is a father heavily burdened by loss, he drinks, curses, and is not always honest with the children. With the other father figures, the situation is even worse: Dustin's father is literally absent, Mike's and Nancy's father is mostly shown sleeping in his chair or completely clueless about what is going on. Will's father has no qualities other than 'unreliability,' the father of Billy and stepfather of Max is abusive. Lucas' and Erica's father seems to be somewhat loving, but he simply does not play a role in the progression of the story or shares a real emotional bond with his children. Then there is Dr. Martin Brenner, whom El calls 'Papa,' but nonetheless takes mothers' children away, keeps them captive, subjects them to experiments, and emotionally manipulates them. This third irritation, in terms of a strong emotional reaction, is thus related to weak or damaging paternal figures present in *Stranger Things*.

Previously on *Stranger Things*…: Meta-Nostalgia, Gender Roles and "Youth Horror"

After having presented those three irritations on the grounds of a dimming of pre-existing scholarly works in order to obtain a stance of evenly suspended attention I will now briefly turn to some aspects of the literature on *Stranger Things*. I will largely limit this to works that tackle similar issues to those discussed here.

There is a growing body of literature on *Stranger Things*, with collections focusing on philosophical themes (Ewing & Winters 2019), the show's psychology (Langley 2023a) and others (e.g. Wetmore 2018; Mollet and Scott 2021).

One central trope, throughout this research, is the role of (80s) nostalgia, e.g. in terms of the show's set design (cf. Barnwell 2021); in journalistic outlets the meaning of casting Winona Rider (as a popular actress of the 80s, albeit rather late 80s) has also widely been discussed. *Stranger Things* functions as a trans-medial show (e.g. Mollet 2019a), presenting intertextual images that reference 80s culture, most prominently via Spielberg films or Stephen King novels. In this, however, the show does not merely function in a 'museal' way but actually puts itself (and its viewers) *in relation* to nostalgia (see for example Willis [2022] for a discussion of nostalgia and desire).

Most evident is the way *Stranger Things* relates to nostalgia in its depiction of 'geek culture' (e.g. *Dungeons and Dragons*, videogames, movies) (McCarthy 2019). The show does not merely re-enact geek culture but allows for reflecting upon the relation between nostalgia and gender (Freeman, 2019; see Olsen, 2012, for discussions of gender in D&D role-playing). Mollet (2019b) argues that, albeit 80s geek culture being heavily leaning towards (a certain type) of masculinity (see also Li 2019), *Stranger Things* incorporates a "nuanced performance of gender roles." Driscoll and Grealy (2022) also discuss the way boyhood is depicted in *Stranger Things*. One important aspect in this is what Mollet (2021; Roach, 2018) coins "the queer child" (see also Langley 2023b). Especially Will's sexuality, as the show slowly progresses towards his coming out as being homosexual and having feelings for Mike, has been discussed in this regard. *Stranger Things* presents the struggles of homosexual young people in the 80s (also in Robin). What the show explores in relation to diversity is not limited to sexuality, as Poulsen (2023) argues in terms of the "politically unconscious" in terms of class, race, gender and sexuality (highlighting the mimicking of the *Ghostbusters* cast by the young boys and the question who will have to act as Winston, the PoC character in the film). *Stranger Things* is not limited to exploring 80s masculinity and boyhood but also presents strong female characters as well, albeit on the brink of relating the figure of 'the mother' to 'the monster' (see Carruthers 2018; Dinsman 2021).

Obviously, *Stranger Things* is about horror. Its themes are rather the horrors individuals and groups are faced with while being under attack by something otherworldy, whereas the manifest political dimension of the Cold War functions more as a setting then as a theme (see, for cultural fears in *Stranger Things*, Butler 2017). However, one could argue that the individual and the political threats are in some sense interchangeable: one might very well stand in for the other. The same is the case, as will be shown, regarding the intrapsychic and the interpersonal level when it comes to 'monstrous threats.'

There is a long history of connecting horror movies and psychoanalysis (e.g. Schneider 2004). In general, this very often builds upon the notion of the uncanny (Freud 1919h). Images of a doppelganger or something strangely familiar (but unaccepted) coming back to 'haunt' or threaten the individual can be understood as a return of the repressed. Regarding *Stranger Things*, this plays an important role since this can be seen as the 'other side of the self' that the individual is reminded of (see Allaire & Gehring 2019, for a discussion of the horror of *Stranger Things* and our "dual nature"). Although, this obviously allures psychoanalytic concepts such as

abjection or notions of an alien self, or difference, in general, I will focus on themes of child and adolescent development regarding sexuality, or the relations between loss and maturation.

Stranger Things' specific horror (see Pamerleau 2019) concerns the Upside Down in this regard; while, it is the 'other world' of the self that one keeps encountering, especially in turning points of individual mental and social development (see Butler 2018; McDaniel 2019; Bellavita 2023, or Malla & Currie 2023, for teenage nightmares, "youth horror," as well as adolescence and horror).

The End is Near: On the Horrors of Growing Up

Next, I will try and weave the irritations previously sketched out into the scholarly discussion in order to bring forward the argument that *Stranger Things* is about fighting monsters in various stages of life.

I have thus far argued that the film-psychoanalytic research method allows for an examination of latent meaning structures by considering the relationship between the recipient and the film (with exploring irritations serving that end). When dealing with the meaning of dreams (which in psychoanalysis can only ever be the individual dreamer's meaning), Freud (1900a, 163) introduces the concept of the "day residue." This means that current (perceptual) impressions, such as those of the just-ended day, act as a kind of 'costume' for unconscious wishes, prohibitions, conflicts, or seemingly unbearable affects. In *Stranger Things*, the narrative of the threat posed by monsters and the impending doom of the world, especially regarding an "Upside Down", a parallel world, provides the "costume" to set into scene other narratives.

The Upside Down is the uncanny other side of individual and social identity. It is mental and bodily development that opens up a gate where change comes pouring in—less as a return of the repressed from the past but rather from the future. The shape of things to come can be monstrous.

I propose to think of these apocalyptic narratives as stories about growing up and being a grown-up. The aforementioned irritations can serve as a starting point for this: *Stranger Things* is saturated with nostalgia for a bygone era (often the personal past of the viewers), a time that may be longed for but can also evoke relief of having outgrown it (first irritation). However, this past is also a scene of 'missing children.' The theme of the missing, disappeared, and possibly deceased child (Will) points to the loss of childhood itself.

Something enters an Upside Down. It is dragged there by faceless monsters and possibly consumed by them. One can hide in the children's hideout (Castle Buyers) for a while, but, as Will tells his mother, it is "dark and cold", devoid of motherly love; something will perish. We do not learn much about the Upside Down as such other than it is the underworld, the underside of the (game) board. In season 4, it becomes clear that time there has stood still since the day of Will's abduction, not progressing further. Barb is taken there when teenage sexuality becomes real (albeit for Nancy). And the gate to the Upside Down is enabled through certain types of killings: In season 4, Vecna wants to create four gates, for which he must kill four teenagers.

Here, the generative levels can already be delineated (second irritation): For teenagers, the Upside Down is associated with sexuality, whose awakening has Barb's demise as an effect. And also, Billy (who is consistently and quite teasingly staged as a seducer) is captured by the Mind Flayer in season 3 on his way to a rendezvous with Mrs. Wheeler, Mike's mother. Another level of teenagers' relation to the Upside Down is guilt. All four victims of Vecna in season 4 (plus Max) feel guilty because they feel responsible for something bad that has happened. Chrissy for her weight/outer appearance, Fred for causing a fatal car accident, Patrick for turning against Lucas, Max for her role in her half-brother Billy's death. The respective guilt is not directly related to sexuality; yet, on the level of the question of which monsters the teenagers in *Stranger Things* are dealing with, sexuality and guilt are intertwined. It is a loss of innocence that befalls the teenagers (and, as Murray matter-of-factly expresses to Nancy and Jonathan, it is also inevitable). That is their very own monster: How to integrate sexuality or how to integrate a sexualized body into the growing conception of a self?

Will is presented as a homosexual character. Several themes intertwine here: He clearly struggles with it, also with his love for Mike (and his jealousy of El, who also becomes his mother's foster daughter). But perhaps crucial here is that the change is also evident: Will senses that Mike means something different to him as a teenager than he did during their childhood; his feelings for his friend become more mature, more physical. The series handles the conflicting situation of homosexual teenagers (Will, Robin) in the 1980s in America rather well, making clear, as Robin does to Steve, how much is at stake when revealing one's love to a same-sex counterpart. Here, it becomes clear that *Stranger Things* is not merely an 80s museum but allows for a 'meta-nostalgic' evaluation of 80s gender roles and sexual identity.

The younger children, however, are fighting a different, personal monster (even though they become teenagers over the course of the series). Will is not abducted in season 1 because his sexuality is stirring. Instead, it is because it became clear that something is coming to an end. Will embodies the struggle with the end of childhood. In season 3, he still wants to play *Dungeons and Dragons* while his friends are having issues with girls. In season 1, he hides in his childlike refuge, and in season 3, he angrily smashes it, symbolizing the despair over what has been lost. This is the children's fight against their monster: Can one prevent the world from turning completely upside down? That one can no longer turn to or want to turn to the parents the same way than before? That life is finite?

The children's fight against their own monster is also one in the face of lost 'innocence' (where awareness of mortality plays a role that is no longer just the result of a dice roll in a D&D game), which, in the first step, is the lost childlike naivety in a good, more or less simply structured world (this is also evident in flashbacks of Billy's childhood, in his suffering in the face of his mother's departure). In the second step, it is the awakening of genital sexuality (for example, when the ball at the end of season 2, where Lucas and Max first kiss, transitions directly into the awareness that the Mind Flayer is still watching over Hawkins). Initially, it is less about guilt (as with the teenagers) but about fear.

Now, what particular monster do the adults fight? They are generally less central, as evidenced by the fact that part of the plot in season 4 involving Joyce, Hopper, and Murray is almost completely separated from the rest and moved to Russia. The struggle of the adults, who are almost invariably parents, is a struggle of mourning. Hopper has literally lost his daughter to cancer, and his dealing with El in season 2 reflects his fears of loss and the resulting efforts to bind a child to himself and, above all, to protect it (at the cost of their development). Although Martin Brenner often appears as a kind of counterpart to Hopper in his father role (third irritation), both share the motif of forced-upon attachment (what 'scientific' reason would Brenner have to let the children he examines call him "Papa"?). This motif involves robbing children of their freedom under the illusion of a protective space for the special ones. Joyce, on the other hand, refuses to accept Will's death, and even though she is correct in doing so, the unbearable pain of letting go, on the brink of denial, is also evident. It is about letting the child go without feeling as if it is lost for good. Otherwise, parents remain bland, Mike's father in particular. In him, turning a blind eye is personalized; not even in an active sense, but one that refuses to recognize there is something to see, something to watch over. He does not recognize the gradual "fading" that being a father requires of him

(Storck 2022); instead, he oscillates between an "empty authority" (when he forbids the use of swear words at the dinner table) and deep sleep in his tv chair. The parents' fight against their own monsters is one that involves mourning, the work of dealing with feelings towards the 'missing children' as the 'missed children,' the children you miss *as* children.

Finally, El's fight can and should be distinguished as a special one. She is also Jane, the child, and later the teenager, not fundamentally different from the boys or Max. But, simultaneously, she is also "011" the traumatized child. In this sense, the fight against her own particular monster is also a fight against the damaging, potentially destructive impact of the trauma inflicted on her at Hawkins Lab.

Conclusion: Should We Bring Down Monsters After All?

I have argued that in *Stranger Things*, in the 'costume' of an apocalyptic narrative about the end of the world (using the example of the small town of Hawkins) and the threat of monsters from an alternate world, a different narrative is presented. In this narrative, different generations are engaged in a struggle with their own respective monsters, offering a specific generative perspective on growing up and associated feelings (sexual feelings, guilt, fear, pain/grief). This interpretation certainly aligns with psychoanalytic considerations of the uncanny, which Freud (1919h) understands as the alien-familiar, the external return of something internal. In this sense, the uncanny monsters in *Stranger Things* are the embodiment of unconscious phantasy in the sense of Isaacs (1948) or Klein (1948), giving a form to one's own affects and impulses (I will leave out a further possible link to the psychoanalytic concept of a death drive. Unconscious fantasy in a Kleinian sense as a concept oscillates between process and its result. It accounts for the fact that however threatening images are, these still depict *something* and thus allow for at least entering a process of coping with fears. Then, a fight against monsters is psychologically preferable compared to succumbing to nameless and imageless terror. In that regard, something which is part of the inner, mental world is warded off and projected onto the outer world from where it comes back at the individual as an external threat. While, of course, not any apocalyptic narrative can be reduced to this level, this is nonetheless one aspect of the trope of impending doom.

One can argue that during various turning points in life the individual is faced with emotional disruptions that Winnicott (1974) coined "fear of

breakdown." While that concept is commonly used to describe disruptions of subjective temporality due to (developmental) trauma, it can be seen as something more general that occurs at the beginning of self-development. Turning points later in life bear traces of an initial "falling into self-awareness" inasmuch as the individual is faced with the task of finding new ways of relating to the world (Storck 2025).

Now, one might ask: Can the monsters be defeated? The teenagers battle the complex feelings of sexuality and guilt, the younger children fight against fear and the loss of childlike naivety, and the adults grapple with the reality of painful losses. Can these fights be won after all, and what would such a victory mean? Psychoanalytically speaking, the 'victory' in the battle against these monsters would involve being able to integrate some of the complex feelings involved which come back as external threats. This means integrating sexuality without guilt (for teenagers), experiencing relative freedom from fear despite life's finiteness (for younger children), or acknowledging and mourning a loss (real ones or losses in the form of changing relationships between children and parents). For El, it involves, alongside the more common developmental tasks, integrating trauma and one's own reactive destructiveness (which is a significant narrative thread in season 4).

Therefore, it's not necessary to decapitate a monster or close a dimension portal or gate to keep something merely 'on the other side,' separated from the 'clean' world of selfhood. In this sense, the recommendation to the characters in *Stranger Things* would be to refrain from the recurring idea of having to close a gate. For example, Dustin nurtures Dart, his baby Demogorgon, who himself grows up to be a monster. Dustin must grapple with it, sometimes requiring hockey gear for protection, but thanks to a candy bar, he knows his monster's emotional worth (on whether or not something good can come out of the Upside Down see also Kuzma 2019).

Can such a psychoanalytic interpretation, strongly focusing on individuals and mental structure and processes, also inform the general discourse on apocalypse? From my perspective, a psychoanalytic-psychological contribution to the examination of apocalyptic and post-apocalyptic thinking can involve keeping in mind the following points:

1. The apocalypse is relative: The demise of a world, the end of a period of time (or time itself) as we knew it, is contextual and can be different for individuals or groups. Whose monster, whose apocalypse are we talking about?

2. The apocalypse is temporal: *Stranger Things* ultimately does not show the actual global or regional downfall. There is the alternate world, but it does not annihilate the conventional world. Much

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in *Stranger Things* serves as a specific *revelation* of impending doom, an end that is in sight. Individually, this is mortality, and collectively or socially, it's the possibility of an end of the world 'as we knew it.'

3. The apocalypse raises questions of fragmentation and the whole: The apocalypse is something that cannot be averted. It's an announcement that one cannot close one's eyes to, facing some sort of a downfall, causing fear in the face of the unknown. Just as the monsters in *Stranger Things* cannot or should not be defeated, one can also say, 'apocalyptologically,' that, faced with the revelation of an end, questions arise about whether the accompanying tension can be endured. This means exploring whether something can be integrated or remain interrelated, or whether it tears things apart, leading to parts being cut off, like severed assemblages located behind a closed gate. Yet, we should try and make our monsters our own.

4. In *Stranger Things* — apart from this being a crucial element of the show's meta-nostalgia — one answer to what might help in the defense of a monstrous future is friendship. In the face of fundamental ('apocalyptic') changes and things coming to an end, states of fear and uncertainty come up. These can be addressed in various ways: by mentally and politically construing enemies or scapegoats or, alternatively, by being resonant with others and thus tolerating anxiety or tension in the face of an unknown future.

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Natalia López

Rethinking Urgency: A Review of *Utopian and Dystopian Explorations of Pandemics and Ecological Breakdown: Entangled Futurities* (2024)

*U*topian and Dystopian Explorations of Pandemics and Ecological *Breakdown: Entangled Futurities,* edited by a group of scholars composed of Heather Alberro (Trent University), Emrah Atasoy (University of Warwick), Nora Castle (University of Bonn), Rhiannon Firth (University College London), and Conrad Scott (University of Alberta), is one of the recent books of the rich collection of the Routledge Environmental Humanities series. Initiated in 2014, this series now includes over 90 essential titles for contemplating the unfolding of the socio-environmental and climatic crisis that the planet is experiencing. This crisis, as the collection points out, demands analysis through an inter and transdisciplinary lens, intertwining the arts, humanities, social sciences, and natural sciences in a deep dialogue with the urgencies of the present.[1] Said titles suggest a shift in focus within the Routledge Environmental Humanities collection itself. At its inception in 2014, the emphasis was placed on the relationship between climate change, the Anthropocene, and 'sustainable' forms of life and consumption through ecopolitics, ecofeminism, and other themes. From 2021 onwards, influenced by the COVID-19 pandemic, the collection increasingly features contributions centered on contemplating catastrophe, disease, and the sense of an apocalyptic end that seemed imminent at the time.[2] It is precisely under this state of emergency that the reflections comprising *Utopian and Dystopian Explorations of Pan-*

[1] The full titles in the collection can be viewed here: https://www.routledge.com/ Routledge-Environmental-Humanities/book-series/ REH

[2] Several titles in the collection, specifically dedicated to thinking about the apocalypse, are: *The Environmental Apocalypse: Interdisciplinary Reflections on the Climate Crisis* (2022) edited by Jakub Kowalewski, *Imagining Apocalyptic Politics in the Anthropocene* (2022) edited by Earl T. Harper and Doug Specht, and *Philosophy of Climate Apocalypticism*: *In and Against the World* (2025) by Jakub Kowalewski.

demics and Ecological Breakdown: Entangled Futurities emerged; ideas germinated during a virtual activity that became the only viable mode of academic dialogue during the pandemic. The book opens with brief, laudatory reviews by prominent theorists of environmental humanities, literature, and science fiction, such as James Engell (Harvard University), Veronica Hollinger (Trent University), and Tom Moylan (University of Limerick). While these endorsements highlight its significance, the book's unique engagement with ecological and epidemiological crises calls for further critical exploration.

As the title aptly announces, the volume's central concern lies in exploring the unfolding tensions between utopia and dystopia during moments of ecological collapse, particularly against the backdrop of the COVID-19 pandemic from 2020 to 2022. The social, economic, political, and cultural repercussions of this period continue to reverberate today, marking an era of "post-COVID." Through methodologies drawn from environmental humanities, environmental social sciences, ecocriticism, and others, the book's 15 chapters present individual and collective analyses of literary works, TV and film, theater, politics, and activism addressing "critical topics such as posthumanism, multispecies futures, agency, political ecology, environmental justice, and Indigenous and settler-colonial environmental relations" (Alberro et al. 2024, 4).

The temporal dimensions discussed are manifold, with reflections predominantly centered on contemporary culture industry productions,[3] alongside key classical literary references like Daniel Defoe's *Journal of the Plague Year* (1722) and Albert Camus's *The Plague* (1947). These works are scrutinized in the chapter "Vitality of Nonhuman Entities: Plagues and Pandemics as Hyperobjects in Defoe, Camus, and Pamuk" by Hülya Yağcıoğlu, which connects historical pandemics with Timothy Morton's concept of 'hyperobjects,' Jane Bennett's theory of 'vital materiality,' as well as object-oriented ontology (OOO) and Bruno Latour's actor-network theory (ANT). However, the prevailing focus is on futurities; specifically, the futures projected from the analyzed works and cases. The book is dedicated to contemplating the pandemic apocalypse to attempt to ward it off, with the concept of 'entangled futurities' occupying a central place. This notion enables rethinking possible futures amid the impacts of pandemics and ecological collapse, emphasizing an approach that resists Eurocentric, linear, and progressive historical narratives. In doing so, the volume expands the concept of futurism from a singular, hegemonic vision to a utopian-dystopian pluralism, incorporating the voices of marginalized collectives and communities as well as representing the agency of non-human species.

[3] It is important to recall the critiques that Adorno and Horkheimer made of the culture industry as a system of cultural production and standardization aimed at maintaining the status quo, fostering social conformity, and promoting critical and political apathy. See Adorno and Horkheimer (2002 [1947]) *Dialectic of Enlightenment: Philosophical Fragments.*

Thus, the central question guiding this work, according to its editors, is "how do pandemics and ecological breakdown show us the ways that humans are deeply interconnected with the more-than-human world" and what might we learn from exploring those entanglements, both within creative works and in lived reality (4). The book's responses to these questions reveal the "entangled materialities and shared vulnerabilities of all living things" (4) through its division into four sections: the first is dedicated to the analysis of monstrous figures and monstrosity; the second engages in an intersectional critique; the third examines more-than-human alliances and eco-justice; and the final section focuses on movements of creative resistance and utopian glimmers. The sections delineate a progression culminating in utopian possibilities as 'glimmers,' reinforcing hope as the central affect to overcome dystopian pessimism and apocalyptic momentum in our times. This momentum is vividly illustrated by series like *Severance* and *The Last of Us*, analyzed in the article "Fungal Imaginaries: The Reconfiguration of Post-Pandemic Society in *Severance* and *The Last of Us*" by Matthew Leggatt. He concludes his contribution with the assertion that he is "hopeful that this fungal system can lay down deeper roots and bring about a new abundance of life in the decaying structures left behind by a dying system" (2024, 79).

Further analyses of the apocalypse take various cultural, social, ecological, and political perspectives. For instance, in "'In the woods the Tox is still wild': The EcoGothic in Rory Power's *Wilder Girls*," Tânia Cerqueira examines how speculative youth fiction intertwines ecological horror and the gothic, portraying nature as a corrupting and transformative force that challenges human/non-human distinctions. Another form of apocalypse emerges in the suggestive chapter "A Scourge Even Worse Than Disease: Richard Matheson's *I Am Legend* as Pandemic Political Allegory" by Timothy S. Murphy. Here, Matheson's novel is taken as a political allegory and metaphor for sociopolitical crises, with its protagonist embodying reactionary resistance to democratic and social changes. A character who also undergoes a dramatic update in the United States during Trump's second presidency. This is a character who, by the end of the novel, is granted an "epiphany or self-revelation, a private and personal apocalypse within the global and public apocalypse—in the original meaning of that term: an unveiling or flowering of what has heretofore remained concealed—that allows him to recognize and momentarily sympathize with the posthuman successors whom he has driven into the role of conquerors" (2024, 62). On the other hand, drawing from Kermode's reflections, the chapter "Five Hundred Years of Plague: Indigenous Apocalypse in Joca Reiners Terron's *Death and the Meteor*" by Benjamin Burte proposes a

connection between apocalypse and colonialism. According to Burte, Terron's work demonstrates how the "exaggerated portrayal of environmental decay and interethnic conflict offers an explanation for the impending apocalypse, engaging the critical impulse of dystopian fiction to warn the reader that their society may reach a similar denouement" (2024, 84). The analysis also delves into the apocalypse as a narrative not only depicted in the novel but also considers Indigenous apocalyptic narratives and their cyclical temporalities.

Finally, we find a political dimension in the relationship between apocalypse and ecojustice in articles that examine specific cases and instances of political and aesthetic activism. For instance, Heather McKnight's chapter, "World-Building Enactments of the School Strike Movements during the Pandemic: Reading Youth Climate Crisis Movements through a Micro- and Nano-Utopian Lens," presents the idea of the possible end of the world due to climate collapse as a catalyst for youth climate action. The chapter emphatically connects the apocalyptic narrative to a hopeful vision, showing how the youth movement Fridays for Future (FFF) seeks to resist the idea of inevitable collapse through the creation of micro-utopias and the reimagining of the future. In the same vein, the chapters "'Preservation is an action, not a state': DIY Utopian Enclaves and Ways Out of Post-Pandemic Surveillance Capitalism in Sarah Pinsker's A *Song for a New Day*" by Jari Käkelä, and "Pandemic Dramaturgy: Co-Designing the Performance *Dying Together/Futures* with COVID-19," by Alice Breemen, explore how groups and communities respond to capitalist surveillance systems and isolation through utopian enclaves and performative acts that challenge the *status quo*. Here, apocalypse operates as a force of creative resistance. In sum, the chapters within this collection advocate for examining apocalyptic forms that are more than narratives of destruction; they offer a prism to analyze the present, challenge power structures, and explore alternative futures.

However, this review—and reading—are inevitably conducted from a particular standpoint, specifically from Chilean academia, and it is from said standpoint that I also make some more critical observations projecting the volume's contributions to said region. First, it is necessary to approach with caution. Unproblematized views of the interconnections, assemblages, and entanglements between humans and non-humans, as well as posthuman futurities, considering that coexistence with the non-human, especially viruses and bacteria, represents dramatic realities in regions of the world where children die daily from dysentery. These 'entangled futurities' must not lose sight of the fact that public health and sanitation policies remain an unrealized horizon in much of the Global

South. Second, it is important that readings of the multiple cultural products analyzed move beyond hope, elevated in the volume as a central political and aesthetic affect. This implies breaking with the emotional dichotomies imposed by modern rationality since Descartes, who posited the fear-hope dichotomy that political theory has long instrumentalized, from Hobbes onward,[4] and, which today, is often associated with emotions generated by socio-environmental collapse. In contrast, the lens of affective ecocriticism situates affects at points of ambivalence, utilizing affective intersections that appear contradictory, such as the cruel optimism theorized by Lauren Berlant (2011) to address the contemporary impasse between the drive for survival amidst the accelerated collapse of traditional infrastructures for life reproduction. Similarly, "negative affects" (Seymour 2013; 2018)—melancholy, rage, despair, and resignation (Ahmed 2004; Ngai 2005; Flatley 2008)—alongside emergent affects specifically tied to the socio-environmental crisis, such as "eco-anxiety" (Merola 2018) or solastalgia (Albrecht 2005), are offered as pathways toward solidarity. This solidarity can disrupt the individual and collective paralysis induced by the current polycrisis. Such solidarity is glimpsed in the reading proposed by the chapter "(Un)Caring Borders: More-Than-Human Solidarities in the Białowieża Forest," where "More-Than-Human Solidarities" are presented as a form of weak, collaborative, and non-individualistic resistance that constructs new forms of belonging beyond political and ecological borders (2024, 170). Finally, as Layla Martínez suggests in her compelling book *Utopía no es una isla: Catálogo de mundos mejores,* it is worth questioning the functionality and enjoyment of dystopian and apocalyptic imagination under capitalist neoliberalism. According to Martínez, "If we only imagine a worse future, the present will seem acceptable, and we won't fight to change things" (2020, 12). Critically interrogating and unsettling this insistent production does not simply mean recreating vain utopias, but rather activating imaginings of possible worlds of coexistence. Gabriela Cabezón Cámara's latest novel, *Las niñas del naranjel* (2023), masterfully does this by aesthetically engaging with historical aspects of colonization in the Americas while imagining new interspecies coexistences amidst the most brutal colonial and patriarchal violence.

Thus, let us celebrate the arrival of *Utopian and Dystopian Explorations of Pandemics and Ecological Breakdown: Entangled Futurities* for its varied and profound reflection on the possible futures arising from the intersection of ecological crises, pandemics, and social movements, and for the space it offers to consider alternative developments of these intersections from the Global South.

[4] The political production that emerges from the affective dynamic between fear and hope is well developed by the Brazilian philosopher Vladimir Safatle, in *O circuito dos afetos* (2016).

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Federico Divino

Apocalypse and Crisis in the Work of Ernesto de Martino: A Review of *The End of the World: Cultural Apocalypse and Transcendence*

Through Dorothy Louise Zinn's translation, the Anglophone world now has access to one of the most important works of Italian anthropology. Ernesto de Martino's thought has significantly influenced the Italian intellectual landscape and anthropological theory due to its innovative and somewhat pioneering nature, as well as for introducing concepts that Italian anthropology continues to widely utilize today.

Despite being regarded as one of de Martino's most important works, *The End of the World* was not completed by the author, and the version we have today is a posthumous publication, unfinished at the time of his death. Nonetheless, the text reveals numerous elements of interest for a theory that the Italian anthropologist began developing from the start of his work and sees further elaboration in *The End of the World*.

The work presents an innovative yet still relevant analysis of the theme of the apocalypse, utilizing the author's intellectual tools, which skillfully weave together common apocalyptic themes related to both human subjectivity and broader cultural movements. These range from religious conceptions to the post-colonial world, with a farsighted and almost prophetic attention to the issues of technology and nature. This relates, most aptly, to how de Martino is interested exclusively in apocalypse "as a document of custom and a symptom of crisis" (2023, 192).

De Martino's anthropological thought evolves from his intellectual background as a historian; specifically, a historian of religions. He engaged in numerous exchanges with prominent figures in the Italian intellectual scene, particularly with Vittorio Macchioro initially and later with Benedetto Croce, with whom he had some early disagreements regarding his ethnological theory and his attempt to subject ethnology to the critical scrutiny of Croce's historicist philosophy (Ginzburg 2017; Geisshuesler 2021).

De Martino's anthropology begins with a critique of naturalism in ethno-anthropological disciplines, a work from 1941 (*Naturalismo e Storicismo nell'etnologia*) that, despite its significance and pioneering ideas for its time, critiques the excessive 'naturalistic' rigor (what we might today refer to as objectivism) in ethnological perspectives that could comfortably dialogue with modern anthropology.

Essentially, de Martino advocates for a phenomenological perspective that sheds naturalistic judgment in describing different epistemological systems, a theory that would be immensely influential in his theory of magic. His essay "The World of Magic" (*Il Mondo Magico*) is the first concrete application of his theories on the ethnological level and would generate significant dissent from Croce, but it also represents the core of de Martino's genius. Unfortunately, this text saw little success in its first Anglophone translation (de Martino 1972).

Although posthumously published in its first Italian edition only in 1977, and incomplete due to the author's passing, *The End of the World* is actually a text that de Martino worked on for decades. It was written during a period when the intellectual climate in Italy was undergoing significant transformations, primarily marked by the devastations of World War II, which are extensively referenced in the pages dealing with nuclear apocalypse or atomic catastrophe (de Martino 2023, 95, 191, 195–96, 199). De Martino had, himself, experienced a profound personal and political crisis, marked by a rapid infatuation with fascism that was equally swiftly followed by disillusionment. Initially, he viewed fascism as a potential hope, giving rise to what some have called a "left-wing fascism", which he rapidly abandoned in the 1930s with the outbreak of World War II. Initially attracted to fascism because of its socialist undertones in a hypothetical 'social fascism,' de Martino was interested in the classes 'left out of history,' those that some would identify as the popular classes. Fascism seemed to elevate them in its folkloric narrative, though with very different ideological goals. With the racial laws of 1938, de Martino took an openly anti-fascist stance, while maintaining his desire to give a voice to marginalized classes, now identified as "subaltern," using explicitly Grams-

cian terminology (de Martino 2023, 171). Gramsci would become more than an intellectual inspiration for de Martino.

In 1945, de Martino joined the Italian Communist Party, becoming one of its leading intellectuals, although his positions were not always shared by the party, particularly regarding his emphasis on ethnology, which often explored religious and psychological phenomena within those same popular and subaltern classes that were often discredited. His attempt to give a voice to these social dimensions, providing anthropological credibility to their rituals, beliefs, and experiences, was the most controversial aspect of his work. He would clash with the Communist Party precisely because this view contradicted historical materialism and class struggle as solely economic emancipation, which saw belief systems like religion as hindrances to these processes. In contrast, de Martino analyzed them phenomenologically and believed that only by emphasizing these cultural and symbolic dimensions could these subaltern classes be reintegrated into historical dimensions from which they had been excluded, thus enabling them to claim their rights.

These positions also led to his confrontations with Benedetto Croce (Sasso 2001, 164). Considered his second mentor after Vittorio Macchioro (from whom he distanced himself by moving closer to Croce), de Martino initially embraced almost entirely Croce's philosophy of history, idealism, and cultural conception. However, he had several clashes with his mentor, starting with a fierce criticism Croce directed at *Il Mondo Magico*, in which de Martino pushed cultural relativism to its extreme consequences, questioning the reasons why ideal categories were far from being universally *a priori*. Croce, on the other hand, staunchly defended these categories to preserve his idea of history and culture as the result of universal categories, which included liberty, reason, and spirit. For de Martino, other cultures were equally capable of epistemological legitimacy, able to construct their own worlds and values, and to perceive reality in ways that were inconceivable to us. In other words, categories were anything but universal. However, de Martino took the blow of Croce's criticism, which prompted him to revise some of the statements made in *Il Mondo Magico*, only to later reclaim and invigorate these ideas in his reflections on *The End of the World*, demonstrating that he never truly abandoned his distinctive conception of history and culture.

Starting from research on the very origins of human 'presence,' de Martino acknowledges that the fundamental importance of the sense of being-there in a culturally given 'world' is a complex anthropological factor. This involves not only the construction of a 'world' and a 'human presence' originating from the society of 'magic' that de Martino hypothesizes at the

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dawn of this formation, but also refers to the issue of the opposite risk: the crisis encountered by presence when faced with the threat of losing a world, which constitutes the apocalyptic terror of its possible annihilation.

> If the nothingness of a single cultural form is another cultural form that gets confused with it, the annihilation of presence is the loss of culture; it is a submersion in nature in a total wreckage of the human. Or: it is no longer being in human history, it is madness. Presence, being-in-the-world, and being-there in history are equivalent expressions for designating human vitality in the act of distinguishing itself from the biological vital and opening itself to the distinction of the distinct operative forces creating culture and history: the useful, moral life, art, and logos (de Martino 2023, 244).

This analysis is extensively applied to psychiatric, historical-religious, and ethnological literature, including interpretations of modern and post-colonial society, as well as dialogues with Marxist philosophy. Presence, de Martino's reinterpretation of Heideggerian *Dasein*, is defined as "fundamentally the ability to bring together in the actuality of consciousness all the memories and experiences necessary to adequately respond to a specific historical situation, actively engaging in it through personal initiative, and transcending it through action" (Pizza 2013, 80).

However, de Martino does not merely 'translate' Heidegger's thought. His anthropological need compels him to completely re-elaborate it, as Signorelli also indicates in her work dedicated to her mentor (Signorelli 2015). For instance, while for Heidegger, *Dasein* is simply "being-in-the-world" (*in-der-Weltsein*) in the sense of self-projecting or self-realizing, for de Martino, existence means becoming part of a concrete and historical cultural world that is already given.

If, however, humans do not 'participate' in the cultural world they find as already given (and, by participating, also contribute to making it worldly in turn, presenting it as already given to others who will come), they risk the crisis of presence, the inability to exist in the cultural world. Thus, while de Martino's concept of existence is active, Heidegger's *Dasein* is passive, it is "thrown into the world" and predisposed to suffer death.

In *The World of Magic*, de Martino scrutinizes a wide range of ethnographic literature concerning the effectiveness of magical powers in various cultures, as evidenced by anthropologists' experiences, and develops a theory that combines Heidegger's philosophy with Croce's historicism. The world of magic, he posits, is a historical period in which the fragility of a not yet determined "presence" is mastered through magic, in a dynamic

of crisis and redemption. This theory was harshly criticized by Croce, who did not accept de Martino's abandonment of Aristotelian categories' absoluteness in favor of cultural relativism, where magic was not reduced to a fantastic identification with natural things. Partly, de Martino retracted this theory due to his mentor's criticisms, but it re-emerged strongly in *The End of the World,* where the theory of presence shifts to analyzing its crisis experienced as an apocalyptic event.

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The Italian anthropologist would then apply this theory to the practical aspects of two renowned ethnographies, both translated into English. These ethnographies involve expeditions in Southern Italy, specifically in Apulia and Lucania. In Apulia, de Martino documented a form of crisis of presence manifesting in the phenomenon of tarantism (de Martino 2005), while in Lucania, he documented still-living traditions of the transmission and use of rituals and magical formulas (de Martino 2015). The explanation of tarantism as a form of crisis of presence is what made this theory famous in the field of Italian medical anthropology, anticipating insightful ethnopsychiatric reflections on the nature of culture-bound diseases (see Pizza 2005).

For de Martino, magic is an effective device for safeguarding presence. While nihilistic terror is a constant anthropological risk of losing the world, and therefore of losing existence, magic is that system of compensations, compromises, and guarantees which, with concrete creative power (which it is the anthropologist's task to uncover how said power works), arise to make possible, in more or less mediated forms, the redemption of presence.

Ernesto de Martino starts precisely from the state of psychopathological delirium and from similar conditions he describes as the "experience of the end of the world" (*Weltuntergangserlebnis*). For this monumental work, de Martino undertakes an interdisciplinary study between anthropology, history of religions, phenomenology, transcultural psychiatry, and psychoanalysis, demonstrating that the experience of the "end of the world" is not only a psychological condition but also has fundamental repercussions in the constitution of ritual (an act aimed at the preservation of presence through relative de-historification), and, thus, in the anthropological field. It also plays an important role in the history of societies, constituting a central topic for sociological interpretation.

The experience of the end of the world as a crisis of presence, that is, an anguishing experience that prefigures one's own annihilation, the descent into the nothingness of one's being, occurs when there is the threat of the disappearance of the very possibility of making a world appear, and of emerging in it as presence, so that although we cannot concretely experi-

ence the 'end' of the world, what anguishes us is the very idea of nothing-ness, its retreat towards annihilation, its disintegration reflecting the fall of the energy of presence as the primordial ethos of world-making: "ending is simply the risk of not being able to be in any possible cultural world; the loss of the possibility of making oneself practicably present in the world; the shrinking—to the point of total annihilation—of any horizon what-soever of worldly practicability; the catastrophe of any communitarian projecting according to values" (de Martino 2023, 38–9).

The modern era is characterized by a growing anxiety toward the future. The exploitation of planetary resources and the consequences of this developmental model, now apparent to all inhabitants of the Earth, has led scholars to identify this epoch with the term "Anthropocene." Beyond the obvious environmental repercussions, this era of reckless resource exploitation has also produced negative outcomes that cut across human life and well-being. As such, many have sought to propose a reflection that reverses the genesis of this phenomenon, tracing the roots of the Anthropocene to Western modes of thought, whose origins predate the Industrial Revolutions. Nowadays, we have situated the Anthropocene within a specific anthropological framework, that of nihilistic and neg-anthropic thought—borrowing from Vioulac (2023&2024)—whose inevi-table, though delayed, consequence is the adoption of a developmental model that consumes, separates, divides, and corrodes not only the planet but also humanity, which is inseparably linked to it. This occurs despite the artificial distinctions between nature and culture that epistemological systems tend to uphold. Hence, it is the same neganthropic force which manifests in both production and destruction, the force of the negative.

Production and exploitation models, capitalism, the devaluation of human subjectivity, and the increasing technicization of social models toward a veneration of automatism and efficiency all stem from a com-mon anthropological cause. Technology requires a 'truth' to establish itself. Said truth could even be a law that decrees the relativity of all laws, but at that point, 'truth' becomes relativity itself. What matters in an opin-ion is its 'power,' but for it to function as power, it requires a significant enemy to oppose. In itself, truth is not power, and to be 'useful' to humans 'as' truth, it must attract power to itself. The truth of science has the con-ceptual domain of 'nature.' Humanity has projected itself (its image) onto nature. Herein lies the error: humans have created the image of nature as their mirror, but in a divided form.

The notion of conceptual force as something that progresses through the isolation of ideas from their inseparable unity with the whole is undoubtedly influenced by Heideggerian thought. In de Martino, it is

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evident that the "thought thing," even nature, is such because it is iso-lated—separated—and in this separation, the thing becomes usable. The link between valorizing force as the creator of concepts and usabil-ity—which reduces the thing to nothing, leaving behind an isolated pres-ence in an anguishing void—cannot be disentangled from the normative dimension of *lógos*.

> It is the unity that conditions the distinction of cultural forms and at the same time the trigger of opposition within each of these forms. It is the technical domination of nature, the manufacture of instruments, the regime of production of economic goods; the social, legal and political organization of human groups; the struggle for power and hegemony on the part of individuals and groups. And it is this same dialectical unity that, in order to be the power of all forms, goes beyond the **use-ful** and the economic, extending itself in complete cultural becoming, in an ethos, art, and logos (de Martino 2023, 242).

The very same *lógos* "fut institué comme principe (ἀρχή) d'explication de la nature (φύσις) et mise en ordre de ses phénomènes en Grèce ancienne à partir du VIe siècle avant notre ère" (Vioulac 2024, 55).[1] Nature exists 'in-itself' only through the cultural necessities that conceive it as antagonistic, justifying the exploitation of resources from something that would other-wise be in unity with us. On the other hand, humans did not 'escape' the logic of natural selection by mere chance, but precisely through technol-ogy. It is for this reason that anthropology must redefine itself as "negan-thropology" (Vioulac 2023, 29), since the age of technology, and thus the Anthropocene, has become the inescapable backdrop of every human event and, consequently, of every ethnography of the present.

For de Martino, the 'end of the world' does not presage a catastrophic event, but rather refers to a condition of "permanent anthropological crisis" inherent in every philosophical and religious thought. In this con-text, the apocalypse is a condition foreseen by every culture concerning the destruction of those same reference models that found a world, and which constantly risk being destroyed if the ritual device does not con-tinuously reiterate their presence in the minds of social actors.

This does not mean that the apocalypse is distant or unattainable. On the contrary, recognizing the fundamentally human value of the 'world' as a construct designed for our needs also leads to the realization that nature, in itself, does not exist except in the necessity of creating a dia-metrical opposite of 'culture,' where lies the horizon of things 'usable' and subject to human dominion. However, this scenario is arguably more

[1] The logos "was estab-lished as the principle (ἀρχή) for explaining nature (φύσις) and organizing its phenomena in ancient Greece starting in the sixth century BCE," the author's translation.

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severe than one in which nature is distinct and exploited by humans, who in the Anthropocene era consume and erode it, almost causing the Earth they inhabit to fall ill. From a Demartinian perspective, nature is an abstraction useful for the discourse of technical domination, but at the same time, if it is a surreptitious division, there exists a fundamental unity of nature and culture that eludes us, making the yoke of this technical horizon—which we today call the Anthropocene—even more serious. Thus, this division "is of *practical use* in the operations that humankind carries out to exercise its effective domination over nature, behaving *as if* there were a nature before and independent of any human intervention" (de Martino 2023, 283). There can be no consumption and subjugation of nature without humanity following the same sad fate, which makes the current situation even more concerning:

> In this perspective humankind is always detaching itself from nature and can never skip this cultural-historical detaching to definitively reach "nature per se." And the cultural-historical detaching itself from nature, and always being inside this movement of detachment, founds natural "things"—that is, a certain background of possible handiness in which each current handiness stands out (283–4).

The paroxysm of the situation is evident. Cultural forces utilize the mechanism of valorization to define the usability of worldly objects. However, in the hypertrophy of such a mechanism, even presence itself, which must already be valorized to feel existent within a potential cultural world, becomes akin to an object. The mechanism of valorizing presences increasingly transforms people into commodities; thus, establishing a system of valorization of life's transcendence that converts the living into a specific 'value' recognizable within the same yoke of the "economic regime of the production of goods and the shaping of needs," namely those "technological procedures for controlling nature" (278). The consequences of this are visible today in the Anthropocene, yet they have existed since the inception of the cultural mechanism of valorization. These outcomes are clearly evident in the anthropology that de Martino outlines of modern man.

> The "world" as conditioned by a certain communitarian project of things at hand undoubtedly presents limits of worlding or cosmicization inherent in this culturally conditioned project. And since the utilitarian valorization, like every other intersubjective valorization, never gets exhausted (if it got exhausted, this would mark the death of the ethos of transcendence), the world is never entirely at hand but only

at hand within the historical limits of a certain projecting. This means that beyond these limits, things or another world do not exist per se but the nonworld, the a-cosmic, chaos, nothingness. The "world" therefore includes the possibility of its "ending," and every "cultural world" is profoundly tormented by this, just as it rests entirely on the ethos of valorization and on the initial impulse of handy valorization. This collapse of the world as a collapse of things at hand can best be analyzed in madness and especially in the experiences of depersonalization and derealization, in the delusion of negation and in experiences of the end of the world (299).

The experience of the end of the world is also recognized as a specific psychopathological condition and is referred to by phenomenological psychiatry as *Weltuntergangserlebnis*. It is characterized as an anguishing experience in which all of the patient's convictions are destroyed. The patients themselves use the term 'end of the world' or 'apocalypse' to describe their condition, a situation where the world seems to collapse (*Weltuntergang*) because the cognitive references that founded reality have disappeared, and with them, everything loses its value: there is no longer a distinction between this and that, reality no longer has the connotations that linguistic-cultural education attributed to it. This condition has been described by Karl Jaspers and later by Borgna (see also Borgna 2015), but de Martino also found that similar individual conditions reflect collective crises of announced apocalypse.

The translation of Ernesto de Martino's work also highlights its contemporary relevance. Although the author was not aware of the issues related to the Anthropocene, and there are some doubts as to whether he would have ever employed such a term (Remotti 2022), what he describes in his work is extremely pertinent today. The principal value of de Martino's contribution to the study of apocalypses lies, as previously mentioned, in his ability to trace the common thread that unites various apocalyptic experiences within a shared anthropological framework: from psychopathological to religious apocalypses, the cultural mechanisms that intervene to mitigate this risk are the same. Today, the realization of an environmental apocalypse is but a reflection of the society modeled after an ant colony that he grimly predicted when discussing the world of technical hypertrophy, with all the consequences it has on the desire to control and manipulate nature.

It seems to us here that the scientific ideal of considering men as ants gets transformed into the prophetic message of a humanity that will

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inevitably reduce itself to a sort of anthill; in other words, into the mirage of a humanity that moves fatally forward toward an apocalypse without eschaton, an apocalypse of the worldly and the human. From a discourse that seemed to have become exclusively methodological, we are thus unexpectedly led back to the subject of apocalypse, but this time a nonreligious apocalypse in which no small part of Western culture finds itself insidiously involved (de Martino 2023, 197).

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In conclusion, the apocalypse is investigated by de Martino in various aspects that, in the posthumous work, have been reorganized by the editors into fundamental thematic areas: the problem of the world and its end in the ethnological-religious context, the problem of the apocalypse as a psychopathological experience where de Martino proves his extreme interdisciplinary competence, managing to dialogue with the psychiatric and psychoanalytic literature of the time, giving it an interpretation of extreme value for anthropology, the apocalypse and decolonization, the apocalypse in the West, the Marxist apocalypse, and finally, numerous considerations are dedicated to the relationship between anthropology and philosophy. In summation, de Martino links the idea of apocalypse to social and cultural upheaval, especially in the context of decolonization. He examines how the end of colonial empires and the birth of new nations can be perceived as a form of cultural apocalypse. The dissolution of old structures and emergence of new modes of identity and society find their reverberations in the apocalyptic rapprochement-destruction of the old, with the possibility of a new order afterwards. He proposes that, for colonized peoples, the apocalypse is at once a rejection of the past and a reconstruction of the future. De Martino also researches how Western society, particularly with regard to nuclear war and advances in technology, experiences and imagines apocalypse. A key timeframe he writes about is that after WWII, when atomic destruction became a very real threat. He argues, as such, that nuclear catastrophe forms the foundation of a collective existential crisis where the end of civilization is at hand. The Western apocalypse is not only physical but also psychological and cultural and pertains to the loss of meaning and social cohesion. And finally, de Martino also engages in the idea of Marxist apocalypse, this belief in a revolutionary transformation of society. The Apocalypse is not an end but a new beginning; namely, the end of capitalist exploitation and the rise of a classless society. De Martino ultimately critiques the Marxist view of the apocalypse as overly focused on economic emancipation and as a result tending to forget that social changes are also an affair of culture and symbolism. He insists that genuine emancipation should cover

not only the abolition of economic systems but also the reconstruction of the cultural and psychical realities of the oppressed classes.

This demonstrates the importance of an interdisciplinary dialogue that can translate the analysis of ethnographic and ethnological data into theoretical considerations. This work is a significant testimony to the importance that philosophical competence has in building good anthropological practice. In this sense, de Martino's work deserves further study and exploration, and this English translation certainly provides an opportunity to rethink Italian anthropology from an international perspective, giving new voice to one of the great thinkers of the twentieth century.

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