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THEMATIC DOSSIER
PROMETHEUS IN THE GARDEN OF EDEN.
ESSAYS ON THE ANTHROPOCENE

Introduction: Prometheus in the Garden of Eden. Essays on the Anthropocene

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Introduction

The term Anthropocene was popularised in 2000 by the atmospheric chemist Paul Crutzen to acknowledge that humans have become a dominant and disruptive factor on our planet such that its future is in danger; or more precisely, *our* planetary future.[1] Climate wars, unbridled exploitation of natural resources, asymmetric distribution of wealth, massive population shifts/migrations, security, data management, unexpected and extreme natural disasters, and beyond-measure/unimaginable loss of biodiversity—these are just a few of the most immediate ways in which the Anthropocene confronts us today.

The formal definition of the boundaries and subdivisions that comprise the Geologic Time Scale is a complex process undertaken by the International Commission of Stratigraphy (ICS), in which proposals and their respective evidence go through several rounds of institutional

[1] Paul Crutzen and Eugene Stoermer, "The Anthropocene," *Global Change Newsletter* 41(2000): 17-8.

evaluation and approval. For instance, the most recent set of relevant changes, the abandonment of the "Tertiary" denomination and the revision of the Quaternary boundary were preceded by decades of research and discussion. While the term "Anthropocene" is not officially recognised as a new subdivision, the ICS established an Anthropocene Working Group (AWG) in 2009 in order to further assess its possible adoption. The AWG fostered extensive scientific research on the Anthropocene hypothesis and provided strong evidence—namely by pinning the so-called golden spike, i.e., the geologic marker left by a global event that led to long lasting global changes—supporting the idea that the earth has indeed entered a new geological epoch. As a result of this period of scientific inquiry a formal proposal for adoption is currently in preparation.[2] Since the very beginning of this discussion, the concept of the Anthropocene triggered a growing interest and sparked many debates involving, not only the scientific community (including the sciences, engineering, social sciences and humanities), but artists and the general public as well.

As historians and philosophers of science and technology we argue that the concept of Anthropocene provides a platform to connect/discuss different issues across various societal groups, and at differing registers of analysis. Serving as an "uncommon ground" and a "trading zone," the Anthropocene notion holds out the promise of new intertwinements and confrontations, ranging from academic topics to activism, artistic engagement to growth (and degrowth) theories, environmental policies to deforestation in Amazonia, gender and race issues, and even privacy and security. Furthermore, it provides a novel heuristic when dealing with traditional approaches to history and philosophy of science and technology, namely concerning the binomial naturalisation of the technology/technologisation of nature, and the tensions between the need to politicise nature and the always-impending risk of naturalising politics.

The bibliography on the Anthropocene[3]—that revived twentieth-century late 80s and 90s debates on the social construction of nature[4]—is vast and addresses two main questions: the *when* and the *who*. Bonneuil and Fressoz summarise some of the critical questions, stressing the need for critically assessing the ahistorical character of mainstream discourse regarding

[2] Anthropocene Working Group, "Results of Binding Vote by AWG," May 21, 2019, http://quaternary.stratigraphy.org/working-groups/anthropocene/.

[3] For a summary on the Anthropocene bibliography see Eva Lövbrand, Malin Mobjörk, and Rickard Söder, "The Anthropocene and the Geo-political Imagination: Re-writing Earth as Political Space," *Earth System Governance* 4 (2020): 1-8, on 1.

[4] Elizabeth Ann R. Bird, "The Social Construction of Nature: Theoretical Approaches to the History of Environmental Problems," *Environmental Review* 11, no. 4 (1987): 255–64, https://doi.org/10.2307/3984134; Donna Haraway, *Simians, Cyborgs, and Women. The Reinvention of Nature* (Milton Park, UK: Routledge, 1991); William Cronon, ed., *Uncommon Ground: Rethinking the Human Place in Nature* (New York: W. W. Norton & Co., 1995); Michael E. Soulé and Gary Lease, eds., *Reinventing Nature?: Responses to Postmodern Deconstruction* (Washington, D.C.: Island Press, 1995).

the Anthropocene, which levels socio-economical differences and conceals political conflicts.[5] Other authors, most notably proposing "Capitalocene"—or similar terms within an extractivist framework—as a counter-proposal followed the same line of discussion, by stressing the fact that the deep transformations of the global biosphere are the result of a specific economic system—capitalism—and its elites' agendas that commodifies and exploits both environments and people.[6] In this context, alternative concepts to describe the "age of humankind," have been proposed particularly by stressing the role played by different forms of capitalism (including the so-called state capitalism) in the unbridled exploitation of natural resources, thus bringing to the forefront the divide between those who explore and those who are explored.

On the other hand, McKibben's "end of nature" thesis[7] was challenged by a set of authors that pointed out nature's resilience as the cornerstone of an alternative approach to the Anthropocene predicament. Against the background of discussions concerning the postmodernist "social construction of nature,"—that was perceived by many authors as a blow to environmental protection—Michael Pollan argued that wilderness ethic's "all or nothing" logic led to an inevitable deadlock that can only be solved by down-to-earth practical individual actions, close to the one used by gardeners, able to spark an open and frank discussion regarding the aim and methods of environmental interventions.[8] Despite their differences, Brand's "new-environmentalism" and Asafu-Adjaye's "eco-modernism" both argue that the end of wild nature is not necessarily an apocalyptic event provided that new eco-systems are designed to host a flourishing economy based on innovative capitalist enterprises.[9] This narrative of a "Good Anthropocene" elicited strong criticism as it validates a complete domination and exploitation of the earth by human beings, establishing a wide network of *liaisons dangereuses* (dangerous connections) with neoliberal economic theories and philosophical approaches to the future of humankind such as Longtermism.

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[5] Christophe Bonneuil and Jean-Baptiste Fressoz, *L'Evénement Anthropocène. La Terre, l'Histoire et Nous* (Paris: Seuil, 2013) [English translation *The Shock of the Anthropocene: The Earh, History and Us*, (London: Verso, 2015)].

[6] Saskia Sassen, *Territory, Authority, Rights: From Medieval to Global Assemblages* (Princeton: Princeton University Press, 2008); Simon Dalby, "Geoengineering: The Next Era of Geopolitics?," *Geography Compass* 9, no. 4 (2015): 190-201; Jason W. Moore, ed., *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism* (Dexter, OH, USA: PM Press, 2016); Donna Haraway, "Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making Kin," *Environmental Humanities* 6 (2015): 159–65; Charles Stubblefield, "Managing the Planet: The Anthropocene, Good Stewardship, and the Empty Promise of a Solution to Ecological Crisis," *Societies* 8, no. 2 (2018): 38.

[7] Bill McKibben, *The End of Nature* (New York: Random House, 1989).

[8] Michael Pollan, *Second Nature: A Gardener's Education* (New York: Grove Press, 1991).

[9] *Whole Earth Catalogue* (1968-98) published by Stewart Brand, https://monoskop.org/images/0/09/Brand_Stewart_Whole_Earth_Catalog_Fall_1968.pdf; John Asafu-Adjaye et al., *An Ecomodernist Manifesto* (2015), https://www.ecomodernism.org/.

From this perspective, the elites of the wealthier and more technologically advanced countries would soon figure as unprecedented "geopowers" and take up the mission of "fixing the planet for the sake of mankind" (a mission that bears an uncomfortable resemblance to the imperialist rationale of the "civilising mission" aimed at "westernising" indigenous populations), with geo-engineering being the most prominent proposal in this direction.

Somewhere in the middle, Emma Marris proposed an expanded notion of good stewardship, putting forward the notion of a "global half-wild rambunctious garden" as the best model to bring together different kind of "natures"—wild nature being just one of the possible types—co-existing with spaces created for ecosystem services.[10]

The editors of this special volume have been discussing the Anthropocene in two particular dimensions: (i) by criticising the ahistoricity often embedded in many of the debates that use "we" and "us" as the cornerstone of universalised stories, which are grounded on the assumption that human society are, and have always been, a homogeneous, flat, and free-floating reality. The result of which is the intentional levelling of socio-economic differences and concealing political conflicts, as well as the affirmation of the technological determinism that frequently underlies mainstream rhetoric on the Anthropocene; (ii) by refining and exploring the concept of *Lumpennature* that we created in order to bring nature back into politics in the Anthropocene, with the strong belief that artistic practices, the social sciences, and the humanities are crucial in this endeavour.

Human Agency and the Anthropocene: An Archaeology of the "We" and the "Us"

The editors engaged in discussions on the Anthropocene and its most obvious markers—climate instability, unbridled exploitation of natural resources and asymmetric distribution of wealth—not from a geological perspective, but as a symptom of the functioning of the capitalist economy on a global scale and the role played by science and technology in implementing an attendant concept of progress largely based on industrial growth and technological determinism. Moreover, we argue that the discussion on the Anthropocene encapsulates an epistemological crisis that challenges the Western Baconian and Cartesian idea of controlling nature in order to transform it into a mere resource and non-human actor devoid of agency.[11]

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[10] Emma Marris, *Rambunctious Gardens. Saving Nature in a Post-Wild World* (New York: Bloomsbury, 2011).

[11] We use the concept of non-human actor as used by the actor–network theory (ANT). See Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford: Oxford University Press, 2005) and John Law, "Notes on the Theory of the Actor-network: Ordering, Strategy, and Heterogeneity," *Systems Practice* 5, no. 4 (1992): 379–93.

This belief is strongly embedded in the concept of the technosphere that refers to a realm created by humans to serve human purposes and characterised by "quasi-autonomous dynamics," tending toward the complete escape of human control, and dangerously borders both technological determinism and technophilia.[12]

While it is clear that technology and science are at the core of the Anthropocene and that technological and scientific events and devices are possible landmarks to date the moment in which humanity began changing nature significantly—the Neolithic Revolution, the Columbian exchange based on the European ability to control the seas, James Watt's steam machine and the beginning of the Industrial Revolution, the 1945 Trinity nuclear test explosion—we claim that it is not technology or technological empowerment *per se* that leads to the Anthropocene, but its use within the global capitalist system.

It is in this context that we strongly criticise the ahistorical framing that is common to many of the debates and narratives of the Anthropocene and particularly those discourses that employ the "we" and "us," which is founded on the assumption that human society is, and always has been, a homogeneous, flat, and free-floating reality. By viewing the reality of human society as self-evident, such ahistorical narratives erase really-existing socio-economic differences and effectively conceals the role of political conflicts in the Anthropocene. We propose to approach the Anthropocene from a historical perspective by foregrounding the role of time, the *longue durée* (long-term period), and human agency in our analysis. This approach allows us to unpack the (i) underlying technological determinism that hypostatises human-generated processes into a set of immutable phenomena that are beyond human control and (ii) the critical interrogation of the lack of historical actors capable of addressing the asymmetries between those who explore and those who are explored and global inequality vis-à-vis wealth distribution and access to resources.

These notions of a "we," or an "us," are not ethereal entities nor are they representative of humanity as a whole. Rather, these notions refer to specific historical actors with the power to decide and intervene in economic and political spheres at the global level and actually convey particular interests. The insistent use of categories devoid of historical content relocates the analysis of the Anthropocene within the domain of ontology and results in the most generic moral criticism—"humanity," "we," "us," selfishly, do not take care of nature. Absent any through-going historical assessment, ontological and moral arguments ultimately divert the analysis away from the unbridled exploitation of resources that is the trademark of capitalism's relentless need for expansion and growth.

[12] Jürgen Renn, "From the History of Science to Geoanthropology," *Isis* 113, no. 2 (2022): 377-85, https://doi.org/10.1086/719703.

The *longue durée* approach deconstructs the global, techno-scientific, epistemology founded on the various, vested, interests in unlimited progress and growth that have converged to the naturalisation of technology and the commodification of nature; that is to say, the deconstruction of the structural building blocks of the hegemonic worldview that has come to be associated with the age of the Anthropocene. Contrary to most mainstream narratives, progress, technology, and technological objects are embedded in specific historical contexts and form part of an entangled, and hierarchised, global history that includes knowledge, culture, economy, and politics. Hence our assertion that technology is never a free-floating phenomenon and cannot be considered as *the* main governing force in society. Thus, by historicising the Anthropocene we deconstruct *both* the hegemonic argument in favour of the idea that it is technology, and not human agency, that determines history *and* the prevailing idea that society's problems can always be solved by technological advancement, including the infamous techno-fixes.

Moreover, bringing the frameworks of the history and philosophy of science and technology to bear upon the present narratives regarding the Anthropocene, we are able to recover and reinforce the human dimension occluded by such narratives. What is more, by virtue of accounting for the changes in human and non-human landscapes via the use of science and technology as a *dispositif*—i.e., as a heterogeneous ensemble of mechanisms that enforce and reinforce power over nature—framed by economic and political objectives one rediscovers the manner by which these intertwined and corresponding changes cohere across different historical scales: herein lies the Anthropocene's *historical* and *political* content stripped of its ontological and moral forms.

Historians and philosophers of technology have made extensive use of the concepts of "naturalisation" of technology and "technologisation" of nature—both of which tend to represent technology as the driving force of the nature-technology relation by imposing itself as a "second" nature and therefore reclaims the status of "form of life" for itself, or by domesticating and controlling nature by transforming landscapes and ecosystems into sources of supply on local and global scales. Moreover, these two concepts tend to overshadow an often dismissed assumption that is of particular significance for discussions of the Anthropocene: to "naturalise" technology—i.e., turning a human-generated process into a set of unstoppable forces in motion "outside" human control—necessarily results in the denial of human agency. Absent human agency, technology is made to appear as the "natural" and only solution for the problems posed by the Anthropocene while simultaneously rendering mute history, culture, social relations, modes of production, and human-nature relations. Hence, by denying human agency, the human origins and differentiated consequences of the Anthropocene are swept under the carpet, obscuring the entangled histories of economic systems, political decisions, social asymmetries and technological solutions.

The Concept of *Lumpennature*: Bringing Nature Back Into Politics

In response to these theoretical shortcomings, we have been developing, refining, and testing a new concept in order to dissect the nature-culture/technology dichotomy and aid in reassessing the nature of nature that is central to the Anthropocene debate: the concept of *Lumpennature*.[13] Analogous to the Marxist concept of *Lumpenproletariat*, *Lumpennature* highlights the demise of nature as an independent entity and to stress its constitutive technological dimension. Moreover, *Lumpennature* also builds on John Bellamy Foster's Marxist-driven notion of metabolic rift; that is, Marx's analysis of the alienation of nature within the dynamics between human beings and nature that results from human labour (soil fertility, for example, is described in Marx's *Das Kapital* (*Capital*) (1867-1894) not as a natural quality of the soil, but rather the result of how soil was used within the specific social relations of a certain time).[14] These complex forms of metabolic relations—that mirrors our argument concerning the power of technology over nature—between humans and non-humans highlight the dual (and therefore subject to tensions) character of these interactions that encompass the agencies of both human and non-human life.

The problem of the *Lumpenproletariat*, in the Marxist tradition is that, despite their proximity to the proletariat, the lumpenproletariat remained incommensurable with the class consciousness of the proletariat and were, therefore, inherently "impolitical" and prone to being manipulated by reactionary forces. Not unlike Nature 2.0, as recently proposed by Busher,[15] the concept of *Lumpennature* is an aesthetic device that brings forward a representation of nature which is essentially already neutralised and inoperative, even—and maybe above all—when it gestures towards environmental concerns.

As a first approximation, it would be possible to limit the meaning of this similarity to the two most obvious aspects of the "ragged" metaphor: on the one hand, the idea of a nature consisting exclusively of heteroclite things; on the other, a reality devoid of intrinsic value, criminal and repugnant. In effect, just as the *Lumpenproletariat* is, for Marx and Engels, a social group made up of corrupted elements from all social classes, so *Lumpennature* would be made

[13] Maria Paula Diogo, Ivo Louro, and Davide Scarso, "Uncanny Nature. Why the concept of Anthropocene is relevant for historians of technology," *ICON* 23 (2017): 25-35; Maria Paula Diogo, Ana Simões, Ana Duarte Rodrigues, Davide Scarso, eds., *Gardens and Human agency in the Anthropocene*, 58-72 (New York: Routledge, 2019); Maria Paula Diogo, Ana Simões, "'Once One has Crossed the Threshold, Can One Turn Back?' Thinking the Anthropocene from a Historical Prism," *Historical Geoanthropology* (forthcoming).

[14] John Bellamy Foster, Brett Clark, and Richard York, *The Ecological Rift: Capitalism's War on the Earth* (New York: Monthly Review Press, 2010).

[15] Bram Büscher, "Nature 2.0: Exploring and theorizing the links between new media and nature conservation," *New Media & Society* 18, no. 5 (2016): 726–43.

up of things of various origins—from cloned sheep to plastic islands— that represent a "crime" in relation to nature.[16]

However, if we pay more attention to the metaphor, we see that, at once, it conveys the idea of what has been produced, consumed, and abandoned, and of what does not obey a harmony. As these values convey an ideological bias, it is necessary to better specify the analogy, since the doctrinal assumptions of its *phoros*, the *Lumpenproletariat*, inevitably condition the meaning of its theme, *Lumpennature*.[17]

The Marxist notion of the *Lumpenproletariat* entails three philosophical presuppositions: first, as a moral and social category, the *Lumpenproletariat* only makes sense in opposition to the proletariat, for it is its ignoble shadow; then, it is a social group which inscribes itself in history in a way that is in opposition to the proletariat—while the latter represents the future, the *Lumpenproletariat* represents the past; finally, the destiny of the *Lumpenproletariat* is to disappear with the victory of the proletariat and the end of the class struggle.

It is not hard to see that if the dialectical relation between proletariat and *Lumpenproletariat* cannot be transposed term by term to the relation between nature and *Lumpennature*, it does, however, allow to shed more light on the concept of *Lumpennature*. In fact, the notion of *Lumpennature* appears precisely to describe not an opposition to nature but, on the contrary, what remains of its end. The notion of *Lumpennature* does not conjure up a moral Manichaeism, that is, after "good nature" there would be "bad nature"; nor a messianic Manichaeism, forecasting the final struggle between a pristine nature and nature reduced to a technological product.

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[16] We use the political and cultural assertion of the concept of *Lumpenproletariat* as it emerges from Marx's texts *Der 18te Brumaire des Louis Napoleon* (*The Eighteenth Brumaire of Louis Bonaparte*) (*Die Revolution*, New York, 1852) or *Manifest der Kommunistischen Partei* (*The Communist Manifesto*) (London, 1848), that is as a complex social conglomerate that escapes full schematization by class relations. However, Marx's and Engels' approach to the concept in, respectively, *Das Kapital* (*Capital*) (Hamburg: Verlag von Otto Meissner, 1867-94) and *Die Lage der arbeitenden Klasse in England* (*The Condition of the Working Class in England*) (Leipzig: Otto Wigand, 1845) define the *Lumpenproletariat* in economic terms, as the lowest strata of surplus populations (precarious, temporarily employed, homeless, etc.), but still belonging to a single class, the working class. For further discussion see Nathaniel Mills, "The Dangerous Class: The Concept of the Lumpenproletariat," *Contemporay Political Theory* 21, no. S2 (2022): 71–5, https://doi.org/10.1057/s41296-021-00487-9; Robert L. Bussard, "The 'Dangerous Class' of Marx and Engels: The Rise of the Idea of the Lumpenproletariat," *History of European Ideas* 8, no. 6 (1987): 675–92; Hal Draper, "The Concept of the 'Lumpenproletariat' in Marx and Engels," *Économies et Sociétés* 6, no. 12 (1972): 2285–312; Peter Stallybrass, "Marx and Heterogeneity: Thinking the Lumpenproletariat," *Representations* 31(1990): 69–95.

[17] Chaim Perelman and Lucie Oldbrechts-Tyteca, *The New Rhetoric. A Treatise on Argumentation* (London: University of Notre Dame Press, 1971), 373.

Therefore, more than finding dialectical similitude, the theoretical benefit of analogy allows us to understand that the notion of *Lumpennature* is traversed by the tension between two dimensions: the analytical and the emotional one. As an analytical concept it allows us to describe an artificial and heterocyclic reality, that stems from the idea of the end of nature. In other words, rather than opposing *Lumpennature* to nature, it would be a matter of showing that the result of the end of nature is *Lumpennature*. This "technological nature" contaminates the essence of what has been perceived in the past as "true nature" eventually leading to its dissolution as a category. Based on this hegemonic view, nature became a human techno-scientific construction, a *Lumpennature*, populated by mechanical bees, plastic trees that soak up carbon dioxide, artificial islands, climate geo-engineering, cloned animals, and cyborgs, to name a few. For some, this paradox is now perceived as the "new normal"; for others the dramatic erosion of the divide between nature and (human techno-scientific) culture entails the end of nature as an autonomous category, i.e., nature's alienation.

We are reminded of McKibben's statement: "we have deprived nature of its independence, and this is fatal to its meaning. Nature's independence is its meaning—without it there is nothing but us."[18] The notion of nature as independent from human affairs is precisely the crux of the matter, as it has been depicted in light of its purported independence as a living and vital self-standing sphere worth of careful protection as well as that possibly limitless object of resource extraction. While today McKibben's insight is more than confirmed, and the very idea of an independent nature is challenged on a daily basis, this has all but eliminated the ambiguities, whether conceptual or political. The awareness of the ever-deeper influence of certain kinds of human activities on the most important living cycles at a global level can also be encapsulated within two divergent approaches. One the one hand, there are those who believe human societies should embrace their new demiurgic power and consciously design new ecosystems that may allow for both natural and human flourishing, including economic growth. Thus, and to paraphrase an old adage, "if nature is dead, then everything is permitted." On the other, some argue that this very awareness of unprecedented global power should suggest self-restraint and contrition before our own potential *hubris*, and foster actions of protection, restoration and rewilding on a large scale. At any rate, what has become clear regarding the "death of nature," is that nature is—and probably always was—a terrain of political conflict, as Political Ecology, both as a concept and as an area of study, has been emphasising for decades.[19]

Alongside its analytical and descriptive function, the notion of *Lumpennature* carries, as already referred above, an emotional charge. Indeed, if one accepts that alongside a history of representations of nature—i.e., a conceptual history that calls upon the history of science and technology—there is also a history of the feeling of nature that calls upon the history of art,

[18] Bill McKibben, *The End of Nature*, 54.
[19] Razmig Keucheyan, *Nature is a Battlefield: Towards a Political Ecology* (Newark: Wiley, 2016).

then it is necessary to show how *Lumpennature* was problematised by artists in the age of the Anthropocene.

Although several works of art have thematised the end of nature—a well-known example being the famous goat stuck in the middle of a car tire by Robert Rauschenberg (*Monogram* 1955-9)—it is in Damien Hirst's work that *Lumpennature* has its most obvious thematization. Hirst's paintings and objects do not "just" show the disgust of a degraded nature; rather, they depict a technologically produced nature. If the famous showcases full of countless animals of the modern zoo reduced to cinematographic memory immediately come to one's mind—the shark preserved in methanal (Hirst, *The Physical Impossibility of Death in the Mind of Someone Living*, 1991); the abject celebration of life with a cow's head feeding a nest of worms, that turn into flies (Hirst, *A Thousand Years*, 1990)—it is in the remarkable series *Pharmacy* (1992) that nature is technologically reduced to its ultimate form of an active principle. Recalling Rousseau's lament in the *Septième Promenade of Les Rêveries du Promeneur Solitaire* (*Seventh Walk* of his *Reveries of the Solitary Walk*) (1782) on the reduction of nature by his countrymen to an "apothecary garden" (following the enlightened canon of useful science),[20] Hirst would take this lamentation one step further. It is no longer a question of not being able to look at plants as anything other than useful products for pharmaceutical practices, as *simplices* (as Rousseau's countrymen did); it is now a question of producing pharmaceuticals without the burden of losing nature, because it simply ceased to exist long ago.

And yet, the end of nature does not culminate in this sterile, pharmacological world, as its counterparts are the flies that invade the new "drug addict" of Eden. In the exhibition *In-A-Gadda-da-Vida* (Tate Britain, London, 2004) by Damien Hirst, Angus Fairhurst and Sarah Lucas—an installation that parodies the reduction of the Garden of Eden to the abject state of a consumer society—embodies the best artistic problematisation of *Lumpennature*.[21] The numerous works that inhabit this artificial and heteroclite garden are overshadowed by Hirst's central work, a *Black Sun* (2004). This is a circle of luminous black, several meters in diameter, which, upon approach, the viewer discovers is made up of thousands of flies glued together, that is, the epitome of a putrefied, and dead, nature. In short, Hirst's two works, *Black Sun* and *Standing Alone on the Precipice and Overlooking the Artic Wastelands of Pure Terror* (1999-2000)—another of his numerous pharmacological works in which he displays on shelves thousands of resin dotted and multicoloured pill replicas—complement each other in a world in which nature has given way to flies and pills.

[20] Jean-Jacques Rousseau, *Œuvres completes*, 1 (Paris: Bibliothèque de la Pléiade, Gallimard, 1959), 1063. *Les Rêveries du Promeneur Solitaire* was first published in Lausanne, 1782.

[21] Gregor Muir and Clarrie Wallis, *In-A-Gadda-Da-Vida: Angus Fairhurst, Damien Hirst and Sarah Lucus*, Exhibition Catalogue (London: Tate Gallery, 2004).

Four Essays on the Anthropocene, One Introduction and One Prologue

Following from the Tate Britain's *In-A-Gadda-Da-Vida* exhibition and, before it in the title track of Iron Butterfly's 1968 LP, the editors of this issue aim at exploring the contemporary avatars for the original myth of falling from grace "In the Garden of Eden" (legend has it that the album's strange title resulted from the fact that Iron Butterfly's lead singer was so drunk when he first announced the song's title "In the Garden of Eden" that one of the band members wrote down phonetically the slurred words as "In-A-Gadda-Da-Vida"). Our stand is rooted in our history and philosophy of science and technology background, thus channelling our questions to the role played by Promethean science and technology knowledge and practices in designing the Anthropocene. We approach the Anthropocene predicament by using this lens of inquiry, and particularly the concept of *Lumpennature*, framing it within a broader context that analyses present crises (ecological crisis, democracy crisis, and so on) as part of the *modus-operandi* of the current mode of production and within the debate of the historical dimensions of globalisation alongside *longue durée* processes such as colonialism and imperialism.

In this thematic dossier we bring together four authors from different fields of expertise that approach a set of selected topics, focusing on different approaches toward the discourse of the Anthropocene. In this way we pay tribute to the Anthropocene Curriculum and Campuses project. Led by two Berlin based institutions, Haus der Kulturen der Welt (HKW) and the Max-Planck-Institut für Wissenschaftsgeschichte (MPIWG), under the guidance of Bernd Scherer and Jürgen Renn, the project was able to begin its work in 2014. Asserting that "Our notion of nature is now out of date. Humanity forms nature," the project encouraged a series of inquisitive and cross-disciplinary events aimed at providing new models for teaching, culture, politics, economics, citizenship, and activism. The multiple Anthropocene Campuses that grew from that seminal Berlin workshop followed its interdisciplinary approach and aimed at bringing together different actors and different modes of knowledge (representatives of traditional communities, visual artists and performers, activists, policy-makers and academics from the sciences and humanities) to discuss and propose new forms of knowledge.[22]

The preface is also the result of our active participation in the Anthropocene Curriculum that, in 2019, led us to organise the Anthropocene Campus Lisbon: Parallax devoted to the discussion of two intertwined and complementary, but often divorced, frameworks: on the one hand, the systems of social and technological organisation that determine the range of possible actions within a given historical context; on the other, perception and narrative, determining our limits for understanding and imagining. Included among the invited lecturers was Dipesh Chakrabarty, a reputed scholar in the subaltern and post-colonial studies and author of *The*

[22] https://www.anthropocene-curriculum.org/contribution/meet-the-technosphere.

Climate of History: Four Theses, one of his influential and challenging texts on the topic of the Anthropocene. We thank him for the generosity of writing a short preface for this HoST issue.[23]

The first essay, by James Williams, "Has Humankind Overwhelmed Nature's Agency?," is anchored in a classic, history-driven, approach to the relationship between humankind and nature. Through a continuous dialogue with other authors' thesis, Williams' essay allows the reader to grasp the intensity of the discussion that has been brewing for a long time in the historian community regarding topics that, today, are included under the umbrella of the Anthropocene. Being an historian of technology with a strong environmental twist, Williams blends technology and economics in different historical moments and specific cases-studies to discuss the process of empowerment of humans over nature and their possible outcomes for our present.

The second essay, "Death, Life, and Longing in the Pandemicene," is written by Scott Knowles, who participated regularly in the Anthropocene Curriculum's events. Knowles presents an innovative approach to the COVID-19 pandemic while exploring the concept of the "Pandemicene"—a proposed heuristic for the Anthropocene that is tailored to account for the action of climate change, both concerning the rapid and large loss of biodiversity and the reconfiguration of ecosystems, leading to undesirable and possibly confrontational contacts between species. By discussing specific, real-world, case studies collected during COVID-19, Knowles' text allows readers to grasp the Anthropocene in the process of its development.

Hannah Dickinson and Elizabeth Johnson author the third essay, "Digesting Planetary Harms: Ocean Life, Biomaterial Innovation, and Uncanny Ingestions of the Anthropocene." Focusing on ocean ecologies and marine life, Dickinson and Johnson explore innovations in biomaterial ingestion by following several case studies that examine the paradigm of digestion and consider how efforts to consume harmful by-products of the Anthropocene spark multifaceted interventions. In so doing, they examine the shifting relations between humans and nonhumans that exacerbate the conditions of an "uncanny" Anthropocene.

Rita Natálio's essay, "The Anthropocene or the Perennial Mining of Otherness—Inquiry on Artistic and Ethnographical Practice for Climate Emergency," closes this set of articles. Natálio analyses experimental artistic productions and actions—particularly in indigenous contexts within Brazil—framing them within a broader discussion of the relations between art, anthropology, and ecology. Natálio shows how the concept of the Anthropocene unfolds into at least three sub-problems that necessarily arise over the course of the inquiry: the redefinition

[23] Additionally, to the authors explicitly mentioned, see Dipesh Chakrabarty, "The Climate of History: Four Theses," *Critical Inquire* 35 (2009): 197–222.

of the hegemonic concept of nature, the redefinition of the hegemonic concept of humanity, and the redefinition of the dichotomous division between these two concepts.

The editors strongly believe that only by reflecting, inquiring, and discussing the multilayered and complex transformation processes that underlie the Anthropocene, in a collaborative and transdisciplinary framework, may one aspire to set an agenda that will effectively contribute to change the path we are currently on.

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