

Agnieszka Soltysik Monnet Christian Arnsperger

University of Lausanne

Introduction

BACK TO THE STONE AGE?

This volume grew out of a collaboration between a literature scholar and a social scientist who discovered a rich common ground of concern about our planetary future and our terrestrial present. The specific topic was sparked by something that may seem trivial on the surface, but that rests on a bedrock of cultural assumptions that this volume aims at least in part to examine and dismantle-namely, the assumptions that generate the common reaction which greets almost any concrete proposal for changing today's society along ecological principles: "You want to take us back to the Stone Age!" The underlying fear, it seems, is that ecological concerns will lead to people being asked or forced to "give up" civilization itself, or at least "modernity." Thus, environmentalists are frequently described and dismissed as antimodern, naïve, and wanting to go "backward" in time, like adults wishing to be children once more. To those who react in this way, it feels as if the very meaning of being "human" is under siege; they seem to believe that a desolate future of returning to cave dwellings and blood-thirsty pagan rites is always lurking behind any talk of sustainability and ecological transition. This volume-starting with this Introductionintends to delve into these assumptions, fantasies and fears about socalled modernity, to contest and demystify them and to show how in response to the ecological crisis a range of artists, writers, philosophers and social scientists have been rethinking modernity's temporality, its deeply ingrained dualisms and the human/non-human split that lies at its verv heart.

While the initial impetus for the volume came from our perplexity about the assumption that thinking and acting ecologically necessarily implied some sort of historical regression or retreat, it is also true that the entire field of contemporary environmental humanities is shot through

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with questions and issues that are essentially temporal in nature. First of all, there is the recognition of how quickly the climate is changing, of how fast the glaciers are melting, of how often record-breaking weather events are occurring, and of the linear temporality of these "records" themselves. These issues are all subsumable under the larger question: how much time do we have left? The temporal issue at stake in this question is that of "the end of times"—the time left before some catastrophe or collapse—or at least of the end of the collectively held assumption that time proceeds progressively "forward" for humankind. More powerfully than ever before, we are confronted with an uneasy awareness that this linear and teleological temporality, with its metaphysics of "progress," is a key aspect of what is meant by the term "modernity."

Moreover, the responses to the problems that have emerged from modernity or, more specifically, from the integrated processes of capitalism, industrialization and globalization, have also been framed in explicitly temporal terms. On the one hand, a movement called "accelerationism," which advocates an intensification and speeding-up of capitalist growth and technological change, has emerged in both left-wing and right-wing variants (Novs; Rosa; Shaviro). On the other hand, an increasing number of voices have called for a "slowing down" of everything from thought to food (Berg and Seeber; Gayeton; Waters). In addition to the issue of speed, the temporal question at the heart of ecological thought and activism is that of the future: what kind of future can we expect, given that we have so much trouble imagining anything different from how we live now? And yet it has become increasingly clear that the way we live now has no viable future. The planet cannot materially sustain the present pace of trade, growth and resource extraction, and it is only a matter of time before something unprecedented occurs, coming either from the side of the planet-in the form of tipping-point events, unleashing totally unheardof climate phenomena and causing great harm and suffering for human as well as non-human populations—or from the side of global capitalism and nation-states around the world as they collapse and crumble. At present, the first scenario appears far more likely than the second.

The science is clear: we are living in a moment of unprecedented environmental upheaval. Let us simply look at the facts for a moment (see e.g., Ahmed; Rockström and Gaffney). The climate is not merely "changing"; it is warming to temperatures which have already ended the relatively stable and temperate Holocene epoch of the last eleven thousand years, and which threaten to trigger irreversible changes that will create conditions much less hospitable for sentient life. At the same time, in the name of an opulent minority of consumers and capitalists, essential forests are being cut down, oceans are being acidified and overfished, ecosystems

are being irreversibly destroyed and mountains of non-biodegradable trash are piling up while most of the pollution gets exported to poor regions and countries. Ninety-seven percent of mammal biomass on the Earth is now composed of humans and their agricultural and domestic animals. Wild animals, birds and insects are going extinct at a rate not seen since the asteroid that wiped out the dinosaurs. We are watching as glaciers melt at an unprecedented speed, and as extreme weather events such as fires, floods, hurricanes and droughts occur more and more frequently—and the recent COVID-19 pandemic is probably just the beginning of a new era of epidemics and disease as viruses proliferate throughout the industrial farming industry and bacteria grow resistant to antibiotics.

Another facet of the current situation is that socially and economically, even wealthy Westerners can no longer assume that life will be better or easier for future generations, including today's children, but are instead faced with the threat of a gradual decline, or worse, a rapid collapse. Not only have the promises of technology and free-market capitalism not delivered the leisured and prosperous science-fiction future promised to the post-war generations, but the standard of living of the present will almost certainly continue to erode in future decades. In the United States, this decline has already been happening since the 1970s, but Europe and the rest of the world are more than likely to follow suit as the global economy increasingly feels the limits of a finite planet and as protracted secular stagnation due to creeping resource shortages replaces a short-lived splurge of economic growth made possible by cheap and abundant fossil fuels (Ahmed 25–30; Hall and Klitgaard 459–73). None of this means that humanity is forced to slide back into the Stone Age. It does mean, however, that designing ways of living well with (much) less energy and less material wealth is going to become the new name of the game.

WHAT MODERNITY MEANS

Thus, the current situation requires recognizing that the myth of progress on which modernity was predicated is unraveling. This fact has not entirely sunk in on the level of the political class or the general public, but it has arguably entered our collective imagination through the proliferation of catastrophe stories in popular culture. Some of these stories are explicitly ecological and meant as warnings, some are simply disaster narratives, others are horror stories of zombies or contagion—but images and scenarios of destroyed capitals, empty cities and apocalypse of various degrees and kinds permeate our cinema and literature alike. This is not surprising, since progress and apocalypse are two names for the same linear narrative that

underwrites modernity (Greer, *Apocalypse*), and as one wanes the other surges forward to take its place.

Modernity, however, can be defined in several different ways and refers to a number of different phenomena, giving birth to a shifting family of meanings. According to one definition, "[m]odernity refers to a condition of social existence that is radically different to all past forms of human experience . . . Modernization refers to the transitional process of moving from 'traditional' or 'primitive' communities to modern societies" (Shilliam). In this quite standard characterization, modernity is literally defined by its difference from "traditional"-meaning: earliersocieties, as well as "primitive" ones, which is a rightfully outdated term that generally designated "native" or "indigenous." In other words, this definition of modernity, which comes from International Relations Theory but represents a widely held understanding, self-referentially posits the modern as the temporal successor (but also as the cultural opposite) of the premodern or indigenous. Thus, as we will see in this volume, the peoples and worldviews that have come to be labelled "indigenous" were invented as such at the moment when "modernity" was also invented, as a logical binary that mutually constitutes both sides of one single ideological tautology. Without the notion of "modernity," so-called Indigenous humans are simply humans.¹ If modernity requires the idea of Indigeneity in order to make sense of itself, like most binaries that structure the Western world, this is nevertheless not an innocuous dichotomy-it is instead a ruthless hierarchy, as can be seen by looking at the historical meaning of modernity.

The "modern" historical epoch can be dated in a number of ways but usually begins after the Middle Ages, with the so-called Age of Discovery, from the 1400s to the 1600s. This moment, called the Early Modern Period, is a period of exploration and expansion of intellectual and geographical borders, of the Renaissance and rediscovery of Antiquity in Europe but also, crucially, of colonization, enslavement and genocide in the name of Christendom in the so-called New World. This is regarded by world-system historians (see Wallerstein) as the beginning of the "modern world-system," characterized by the development of capitalism and industrialization, but it cannot be separated conceptually from the wars of empire and the wholesale transformation of entire populations into mere factory fodder kept on the brink of survival.

¹ In using the term "Indigenous" throughout this volume, we are following the example of Cherokee scholar Daniel Heath Justice in *Why Indigenous Literatures Matter*, who uses it to refer to kinship-based tribal-nation peoples across the North American continent. We use it to refer to people who identify as such around the globe (6–9). Following his lead, we capitalize this term to affirm the distinctive political status of peoplehood that the proper noun implies (6).

A more specific sense of the idea of "modernity" conflates it with the eighteenth-century debates about science, philosophy and politics that we generally subsume under the idea of the Enlightenment. This makes the concept of modernity even more malleable because it includes the internal and external critiques of the Western model and of its abuses as they had developed by the eighteenth century—and so the modern Enlightenment includes radicalism, reformism, democracy and human rights. The darker side of such ideas, however, is that—as argued by David Graeber and David Wengrow in *The Dawn of Everything*, drawing on the research of Native American scholar Glenn Aparicio Parry and other sources (see Parry)—their origins in the thought of Indigenous intellectuals who criticized European society was almost completely covered up for three centuries. So even modernity's progressive streaks are marred, at least when it comes to the acknowledgement of their genesis, by the ills of colonialism and racism.

Despite these different emphases, most critics and scholars of modernity can be seen as referring to a shared set of principles and assumptions, including the Cartesian split between mind and body, which arguably extends the earlier Christian split between spirit and matter, combined with a division of the world into humans and non-humans, the former designating the realm of Culture and the latter becoming cordoned off as Nature (with animals being seen as mere insentient machines). As we observed earlier about the "modern/ pre-modern" binary, this one is not an equitable pairing of opposites either, but a hierarchy in which Culture is destined to dominate and control Nature for its own ends. Without the notion of the "human," non-human animals are simply living beings, fellow Earth-dwellers. Seen from this angle, the modern project is one of mastery and manipulation of a soulless, mindless and passive "natural" world. This also happens to be what Max Weber would call the disenchantment of the world—a process by which humanity comes to occupy a universe that it has stripped of mystery, of the divine and of the kind of agency and copresence that was long associated with the term "animism." In modernity, the only relationship humans can have to the Earth and to the land they live on is one of possession, control, extraction and, at best, management or the gendered notion of "husbandry." This attitude, characterized by commodification and by a conceptual transformation of living systems into dead matter, is widely regarded as the basis of the exploitative, extractive and de-realized relationship that Western and Westernized humans have with the planet right now. And it is one of the underlying reasons that many thinkers in both science and the humanities have come to call the last century and a half the "Anthropocene"-the "age of the human," which should more aptly be termed the "age of the exploitative and extractive

portion of mostly masculine humanity." Indeed, this age has also been linked to the genocidal and racist expropriation of Indigenous bodies and lands in the service of global capitalism. As Jamaican scholar of decolonial thought Jason Allen-Paisant observes succinctly in his essay on African indigeneity, "the turning of nature into an object has gone hand in hand with turning certain humans into objects" (43).

MODERNITY'S TEMPORALITY

We will return below to the term "Indigenous" and the complex debates surrounding it, but we want to dwell for a moment on the most important feature of modernity, at least for our purposes: its temporality. As we saw from the earlier definition, the notion of time that underwrites modernity, as that which breaks "radically" from the traditional and the primitive, assumes that time is linear and that the "modern" is more "advanced" than the "traditional." The latter acquires in this dyad a distinctly negative meaning, which is especially perceptible in the ideologically fraught term "primitive." Linear time moving "forward" in a line is a key aspect of modernity, and one that has an important pre-modern origin-namely in the Judeo-Christian tradition, actually dating back to Zoroastroism (Greer, Apocalypse). The idea of moving "forward" is essential and linked to the belief, especially strong since the nineteenth century, that human societies are constantly progressing. According to independent scholar John Michael Greer, to professor of conservation biology Tom Wessels, and to other thinkers, the idea of progress is nothing less than the central myth or civil religion of the modern era (Wessels 5; Greer, After Progress 20). The assumption that our societies, our economies and our cultures are constantly getting better is so deeply ingrained that it is difficult for many of us to see through its truly ideological or faith-based nature. Built into the very definition of modernity, the belief in progress requires that the past be regarded as "primitive" and "backward" or, in Greer's words, as "an abyss of misery and squalor" (After Progress 28) while history continues its unstoppable movement towards better things (29).

Moreover, as Greer points out, "progress" refers to any one of several interwoven things: moral progress (societies getting "better," more democratic, etc.), scientific progress (usually equated with technological "improvement" and "innovation") and economic progress (tantamount to material growth) (*After Progress* 39–43). Although momentarily shaken, at least for some of us Westerners, by world events such as the First World War and the dropping of the atom bomb in 1945, the faith in the religion of Progress has generally continued to underwrite contemporary Western

culture and development. In order for us to begin to appreciate the power of this model in our thinking, Greer reminds us of other cultures in which the dominant model of time was quite different. For example, in the influential Greek poet Hesiod's vision of the world as depicted in his two major poems, *Theogony* and *Works and Days*, the present moment, called the Iron Age, was a pale shadow of an earlier Golden Age, which had been followed by a Silver Age and an Age of Heroes, immediately prior to Hesiod's time. In other words, the arc of history was not at all that of an advancement but that of a "long and bitter descent" (*After Progress* 51).

Another example to drive home the fact that faith in progress is not some natural emanation or deep grammar of the human psyche but a historically and culturally specific mythology, Greer cites the Dreamtime of the Australian aboriginal culture. Similar to the cosmologies of many other tribal societies around the world, the Dreamtime assumes that everything has already happened long ago and is happening "right now in parallel to ordinary time" (*After Progress* 53). There have been recent debates about the accuracy of the understanding of the Dreamtime by anthropologists, as there has come to be more self-awareness about the reflexive ethnocentricity of anthropology itself, but the larger, undeniable point is that many Indigenous creation myths and spiritualities do not share a linear paradigm but rather more cyclical, integrated or "complex" notions of time, the term Tom Wessel borrows from complex systems science (21).

In their book The Ends of the World, philosopher Déborah Danowski and anthropologist Eduardo Viveiros de Castro explain that Amerindian cosmologies are often the exact reverse of the modern timeline insofar as they place the human moment not at the end of time, not as the most recent epoch, but rather at the beginning of time, as "empirically anterior in relation to the world" (63). According to these origin stories, the world begins with a "primordial humanity," either created by a demiurge or simply presupposed, and these primordial humans are not fully human in our sense; they are "endowed with the same mental faculties" as humans but also a "great anatomical plasticity" (63-64). From this initial common humanity all the current biological, geographical, meteorological and celestial bodies were later made through a process of diversification, while historical humankind remained essentially the same (64). The result is that there is a substratum of vestigial humanity in all living and (from the "modern" perspective) non-living beings. A similar cosmology exists for the Kaluli in Papua New Guinea, for whom there once existed a time where the entire surface of the earth was covered only with "people," who later were converted into the various species of animals, rivers and another natural phenomena, leaving a part to become the ancestors of

human beings (64). In short, for many Indigenous peoples, other animals and natural elements of the landscape may be regarded as multiplicities of "people" or "societies," or as Danowski and Viveiros de Castro argue, as "*political entities*"—a notion that was developed by Bruno Latour in *Facing Gaia*. Thus, to return to the issue of temporality, for many Indigenous peoples time is anything but linear, teleological and progressive (68, 76).

Western temporality, however, is not just an infinitely forward-moving progression. As we mentioned earlier, alongside the idea of progress another teleological structure is frequently shadowing it: a goal and an endpoint, often figured as an apocalypse followed by the rebirth of a paradise, at its heart echoing the Biblical model which describes the post-apocalyptic world as Edenic. Thus, Progress and Apocalypse are two aspects of the same modern model of linear time; they are two deeply mythical topoi that permeate Western culture. If, under capitalism, the myth of Progress seems to promise a paradise without an apocalypse, Bruno Latour argues that this is because for moderns, the apocalypse has in some psychological and ideological sense *already occurred* and we are already living in a Garden of Eden, or so we have been led to believe. The apocalypse was the end of the traditional, pre-modern life, of the world of "before," and this is one reason why anything that seems like a "return" to the past is felt to be a fall from grace or an inconceivable loss (Latour 184-219). Latour's provocative remarks resonate uncomfortably with another critique of the apocalypse paradigm, this time coming from Indigenous scholars and critics, who point out that their world has already ended, that their apocalypse has indeed *already happened*, has been happening in some cases for six hundred years, and yet that they are still here.

APOCALYPSE, DEEP TIME AND THE ANTHROPOCENE

Nevertheless, despite these qualifications, the apocalypse "meme," as Greer calls it, still has much traction and tenacity among contemporary Westerners, especially but not only among environmentalists. Among the latter, it is not hard to understand why. This is partly due to the huge and powerful impact that catastrophism initially had as an environmental rhetorical device. Rachel Carson's *Silent Spring*, published in 1962, was basically an apocalypse story, and as such it led to the contemporary ecological movement and to the various regulations and protections that were put in place in the 1970s. In 1995, Lawrence Buell would call it "the single most powerful master metaphor that the contemporary environmental imagination has at its disposal" (285). It has since become subject to the law of diminishing

returns, however, and even counterproductive as reactions of helplessness and paralysis become more and more frequent and as eco-anxiety takes hold. Apocalyptic scenarios dominate popular culture—*The Walking Dead*, *Don't Look Up*, *Melancholia*, and other examples—as well as literature and other arts, and yet action to change systems and lives has not happened on the scale that would be necessary. According to psychologist Paul Slovic and others (see e.g., Dupuy; Marshall; Stoknes), catastrophic scenarios simply don't mobilize people to act on climate change knowledge. In fact, apocalyptic scenarios can seem like an attractive *alternative to change*, offering a chance to start over with a clean slate (Landon 8). Conducive to denial and comfortable with its mechanisms, apocalyptic scenarios invite each reader or viewer to imagine that they will not be one of the millions to perish, but one of the handful to survive and to start afresh, as at the end of the film *The Day After Tomorrow*.

If apocalyptic narratives are ubiquitous now, they emerged with particular force at the beginning of the nineteenth century and took hold of the popular imagination at exactly the same moment when Deep Time was gaining ground-which also corresponds more or less exactly to the timespan described by the term "Anthropocene." The concept of Deep Time, introduced by Scottish geologist James Hutton in the late eighteenth century, was initially rejected and took several decades to gain acceptance. As the story goes, Europeans up to then had been used to thinking of the Earth as roughly six thousand years old and were not inclined to embrace Hutton's model, which cast the planet's age into the millions of years, dwarfing the human era and thereby deflating humanity's self-importance. Yet, discoveries of dinosaur skeletons in the early nineteenth century corroborated his work and by the mid-nineteenth century, the Deep Time concept of seeing human civilization as just a short fragment of an immensely longer geological story was accepted as part of the scientific worldview.

This paradigm change reverberated throughout the cultures of the West. Thomas Cole's *The Course of Empires* (1833–36), a series of five paintings depicting "The Savage State," "The Arcadian or Pastoral State," "The Consummation of Empire," "Destruction" and finally "Desolation," merged the popular tendency to think in terms of progressive epochs or stages (used notably by Adam Smith, and later by Hegel and Marx) with a new awareness of the fragility of civilizations and the possibility of decline and disappearance, often portrayed as cataclysmic rather than gradual. In British literature, the first post-apocalyptic novel, *The Last Man*, was written by Mary Shelley in 1826. In the United States, Edgar Allan Poe published "Conversation of Eiros and Charmion" in 1839, telling the story of a comet that approaches and then destroys Earth.

While the concept of Deep Time was initially met with hostility because of its profoundly unsettling implications for anthropocentrism, today it continues to speak to our mortality, fragility and ephemerality. It is frequently evoked by nature writers and environmentalists as a reminder of our relatively insignificant place in the course of planetary history (Ialenti; Macfarlane), in the spirit of calling us back to a humbler and more respectful attitude, as many of the essays and literary excerpts in this volume suggest. The word "Anthropocene" can be regarded as part of this project, i.e., as a warning that we are impacting geological time categories that are far beyond our scope and ability to control once we have disrupted them. Yet, paradoxically, the term "Anthropocene" can strike one as precisely the opposite of humble. It attributes agency to humanity over geological time, a "telluric power" as it is often described, evoking godlike abilities. Not surprisingly, some recent commentators have suggested embracing the Anthropocene as an opportunity to "manage" the planet for our own ends, calling for geo-engineering and other technological "fixes" to the unfolding ecological crisis (see, most notably, Lynas).

The term "Anthropocene" raises other critical questions as well. Critics have observed that it unfairly attributes blame for global warming to humanity as a species when, in actuality, it is a small number of nations and an even smaller number of industries and corporations that are mainly responsible for the rising temperatures and the collapse of ecosystems. The terms "capitalocene" and even "oligarchocene" have been suggested (Bonneuil and Fressoz; Moore; Campagne), though they have not quite caught on for now. Perhaps the implied sense of a collective destiny that the word "Anthropocene" evokes resonates better than the more accurate and politically incisive variations. As Dipesh Chakrabarty suggests at the end of his highly influential essay "The Climate of History," the term effectively invokes a "universal that arises from a shared sense of catastrophe" (222).

Whatever the reason for its traction, the term has spread through academic and popular discourse like wildfire. It has also crystallized concerns about the future of the planet into new psychological phenomena such as "Anthropocene anxiety" and "ecological anxiety disorder" (Grose; Ray; Kennedy-Woodard and Kennedy-Williams). From psychotherapists to cultural analysists in various disciplines, it has been noted that there is a wide range of emotions activated by the Anthropocene and its implications for the future (Albrecht; Sepkoski). These emotions include but are not limited to depression, grief, denial, fear and anger. Many of them are quite paralyzing, especially the fatalism that can come from a sense of inevitable catastrophe and planetary destruction; some of them can flirt with apathy or cynicism; and finally, environmental activists and scholars often wrestle with the specter of despair. Other emotions are

more subtle, such as the "Anthropocene nostalgia" discussed by one of the contributors to this volume, which is a form of looking backward that is paradoxical, demythologizing and oddly critical, aware that the past that is ambivalently longed for was neither simple nor particularly good. Many of the articles in this volume can be seen as dealing with the psychology and affect of the Anthropocene, because many are about how literature, film, graphic novels, poetry or visual art seek to engage with people's emotional, intellectual and aesthetic responses to the ecological crisis and its possible future outcomes.

INTERCONNECTIVITY, INDIGENOUS KNOWLEDGE AND THE ECOLOGICAL FUTURE

This brings us to the heart of the matter, as our volume's title-"The Ecological Future"-insists. What to do and how to do it? This is not mainly a question of "solutions" (which eco-modernists and Big Tech are all too eager to supply for a hefty fee), but rather one of course corrections, reorientations, and possible paths towards a true equilibrium-a stabilization of ecosystems and societies, a more just and joyful world based on realistic assessments of planetary limits and health, on an ethics of care for the Earth rather than possession of land and resources, and on a more intelligent and compassionate approach to maintaining life on Earth. If we think through the implications of the issues raised in this Introduction thus far, one of the conclusions is that art and literature will have a crucial role to play in the necessary and urgent task before us: changing mindsets and perspectives. We need to be able to think and act based on a more complete picture of the world and the dangers it is facing: not just more data and more facts, but also a way of understanding the data without the blinkers and blind spots of dualistic thinking and anthropocentrism, without the myth of progress, without the twin seductions of apocalypse and paradise, and without the categorical separation of the human and the non-human, of Culture versus Nature, that has driven our relentless destruction of ecosystems in the name of growth, prosperity and development.

If there is one theme that runs through all the essays in this volume, it is the importance of recognizing the interdependence of humanity, animals, the biosphere and the various Earth processes that support life on this planet. If there is any one term that could serve as the byword for an "ecological future," it would be *interconnectivity*. Just as interconnectivity assumes subtle and complex interrelations between systems and things that on the surface may seem distinct and autonomous, there are various

paths to this more complete vision of the world and its beings. For some, the path can be bio-geoscience itself (Capra and Luisi), or some of the more specific recent research that has, for instance, revealed the symbiotic relationship between trees (Simard; Wohlleben) or the vast underground mycelium networks which permit the former to communicate among each other (Stamets; Sheldrake). For others, the path leads through spiritual traditions and practices such as Buddhism for instance, from which (as discussed by one contribution to this volume) a popular metaphor has emerged: Indra's net of jewels, a vast network that stretches infinitely in every direction, with a perfect jewel in every "eve" of the network that reflects all the other jewels. This is taken as a powerful trope for the idea of interbeing and mutual inter-causality across the entire biosphere. For still others, a recognition of the interconnectivity emerges from a revived spiritual engagement with the material world, through current as diverse as posthuman ontology and ecology (Braidotti and Bignall), neopaganism (Hopman and Bond; Hutton), plant-based spiritual practices (Narby and Chanchari Pizuri; Pollan), or a renewed interest in animism (Astor-Aguilera and Harvey; Durrant and Dickinson; Harvey).

This brings us back to the issue we started with above, when we began to define modernity. Modernity, as we saw, has produced Indigeneity as its "Other" but nevertheless needs it in order for the word "modern" to even have any meaning at all. Under the aegis of this highly problematic abstraction, many different tribes, cultures and individuals having varying degrees of connection to traditional lifeways (from full immersion to none at all) have been regrouped into a single category. According to the United Nations, there are around 476 million "Indigenous" people in 90 countries around the globe, making up about 6.2 percent of the global population.²

Indigenous peoples have been the first and most impacted by the Anthropocene, and they have been so for centuries (Allen-Paisant 33). Not only has settler colonialism unfolded at the cost of Indigenous lands, sovereignty and lives, but Indigenous people continue to be the most vulnerable to extractive practices today. Although representing only 6 percent of the world's population, Indigenous communities are involved in "40% of all environmental conflicts globally" (Martínez-Alier and Meynen). In the twentieth century, this included uranium mining (Voyles) and, later, deposits of radioactive waste, as well as logging, water pollution and appropriation of Native waterways, pipelines laid across sacred Native lands, drilling and, most recently, fracking (Fixico; Klubock; Todrys). As a result of rising oceans and climate change, islands where Native people dwell have been sinking and disappearing—which is a harbinger of rising

² See https://www.un.org/en/observances/indigenous-day

coastal waters that will drive many other coastland populations inland in the future, except that these islanders literally have nowhere else to go.

Indigenous activists have thus been instrumental in calling for a stop to environmentally harmful practices and have spearheaded protests, lawsuits and actions to protect their lands. In 1990, the Indigenous Environmental Network was founded by "grassroots Indigenous peoples and individuals to address environmental and economic justice issues."3 Moreover, researchers and policy makers around the world are turning to what has come to be called Traditional Ecological Knowledge (TEK; see e.g., Menzies) for managing and restoring damaged ecosystems. The Skolt Sámi people of Finland, for example, participated in a study in which their traditional knowledge of salmon fishing was used in a co-management project with the Finnish government to restore spawning sites and reverse the decline of salmon populations.⁴ Similarly, ancient Aboriginal practices of land clearing through fire in Australia have shown to stimulate greater biodiversity in regrowth and more sustainable ecosystems, and as one contributor argues in this volume, it is not "too late" to revive these traditional burning techniques to better care for the land. These are only two of many examples of traditional land management and sustainable stewardship of the plants and animals in ecosystems under Indigenous care.

Also in 1990, a non-profit organization called Bioneers was founded by Kenny Ausubel and Nina Simons to disseminate nature-based solutions for "restoring imperiled ecosystems and healing our human communities" (Nelson xvii). Drawing on "human ingenuity wedded to the wisdom of the wild," Bioneers emphasizes the interconnectivity of natural and human communities and looks to TEK to face the unprecedented "global ecological collapse" (xxii). Native American sociologist Jack Forbes puts it like this: "The life of Native American peoples revolves around the concept of the sacredness, beauty, power and relatedness of all forms of existence" (gtd. in Pinchbeck 21). Interconnectivity is thus a crucial aspect of Indigenous cosmology and thought, and one that is increasingly making its way into mainstream science (Cajete; Peat). As Tewa Pueblo educator Greg Cajete observes (Nelson 253-56), education for the future needs to draw on scientific as well as traditional knowledge, "re-indigenizing perspectives in mainstream thinking" while respecting the unique knowledge of specific tribes. A truly enlightened science would thus be able to draw on insights of both what Cajete calls "the rational mind" and "the metaphorical mind" (Nelson 5-6).

See https://www.ienearth.org/about/

⁴ The study was published in *Nature* in 2017. See https://e360.yale.edu/features/ native-knowledge-what-ecologists-are-learning-from-indigenous-people

Cajete's synthesis can also recall the "mestizaje," or bridging of different identities and cosmologies, that Gloria Anzaldúa calls for (and performs) in her influential 1987 manifesto, Borderlands/La Frontera, where ecofeminism, queer theory and Chicana indigeneity meet and forge a new border consciousness. If interconnectivity and a respect for the interdependence of human and non-human creatures characterizes the cosmologies and worldviews of many Indigenous peoples, these aspects have also been important for feminism and especially for the queer and decolonial feminism of figures like Anzaldúa. Her work emphasizes embodiment and spirituality in ways that deliberately and defiantly refuse the dualisms and alienations of modernity, inviting readers to see how the political and the spiritual are connected in an engaged decolonial practice. They are connected not only to each other, but also to a specific land and place, making spirituality a question of what Christina Holmes calls "body/landscape/spirit relations, offering a comprehensive effort to shift subjectivity from the secularized and individuating practices that are produced by dominant discourses" (19).

ENLIGHTENMENT AND "RE-INDIGENIZATION"

An ecological future requires dismantling and rethinking modernity as we know it. We need to break the spell of the magical thinking that the concept of modernity has cast on the West and on much of the "developing" world as well (see e.g., Kothari et al.). The magical thinking we are referring to is the neoliberal trinity of blind faith in inevitable progress, unbounded economic growth and self-regulating free markets. None of these beliefs are fact-based. When Mahatma Gandhi was asked what he thought of Western civilization, he famously quipped: "It would be a good idea." Wouldn't a true "Enlightenment"-based on an honest appraisal of the information we have about the Earth and its systems, as well as an ability to think with a "re-indigenized" intelligence that connects us to ourselves as minds, bodies and spirits in a living world full of other beings to whom we feel directly and intimately related and whom we also recognize as having minds, bodies and spirits (see e.g., Van Horn et al.)—also be a good idea? This enlightenment would also be a "re-indigenization" in another sense: as David Graeber and David Wengrow have reminded us recently, drawing on a wealth of scholarship by Native American researchers, many of the values we associate with the Enlightenment, such as equality and radical democracy, were already the contributions of Indigenous thinkers in the eighteenth century (27–77).

In short, perhaps the Enlightenment baby does not need to be thrown out with the bathwater of Modernity. Many of its ideals and institutions,

such as the Human Rights Council, the UN Declaration on Indigenous People of 2007 or the UN War Crimes Tribunal, are valuable even if flawed. The United Nations has often been criticized for being Eurocentric and overly Western in its self-proclaimed universalism, and there is clearly truth to these critiques. Yet, there are real dangers in abandoning any shared human values and retreating into an absolute cultural relativism that allows any state or nation to impose anything it wishes on its people. We are watching some of these dangers play out in real time as we write this Introduction. Vladimir Putin's army has invaded Ukraine and ideologues in Russia have been defending his actions for years by saving that Russia has its own "special Russian truth that you need to accept," which they claim is not the human-rights-and-democracy truth of the West (Gatehouse). If this sounds vaguely familiar, it is because in the United States the Trump administration was making similar post-truth assertions between 2016 and 2020, claiming its right to "alternative facts" that finally led to a concerted coup attempt to impose its "alternative results" on the presidential election. Thus, we need to be careful to not discard human rights as we rethink the category of the human, and instead to expand the idea of "rights"acknowledging very clearly its original cultural baggage and Eurocentric limitations but maintaining the aspiration to respect the dignity and integrity of all living creatures and of the precious ecosystems that sustain us all-of all terrestrial beings, as Bruno Latour calls all of us in Facing Gaia. We also need not throw out the science baby with the bathwater of scientism-the cult of technological progress and the assumption that science alone can provide all the answers to the environmental crisis-that has in large part led us to today's situation. Post-science is overwhelmingly anti-science, and we need all the hard-nosed science we can get when it comes to climate disruptions, biodiversity losses and emerging pandemics.

If we want to break the spell of modernity and at long last enter into a true present, we will need to give up our most cherished faith: the twin civil religion of Progress and Apocalypse. As we reach peak oil and break many of the planetary boundaries, we will not have the better future we expected—"not the future we ordered" (to borrow the title of Greer, *Not the Future We Ordered*). We will also not garner the illusory cleansing reset of a swift and apocalyptic collapse that would "regenerate" our dying civilization. One of the blind spots of moderns, according to Latour, is that they feel they have nothing to learn from the past. If we actually looked to the past, as painters and writers in the early nineteenth century began to do, we would see that entire civilizations have already come and gone, almost always in messy, bloody and agonizing ways. If we were not so mesmerized by the seductive myth of our unique and irreversible greatness, we could better prepare for the long descent that is most likely

awaiting us. If we could only perceive and prepare for it with some of that special human intelligence and ingenuity of which we are so proud, we might make that transition into the de-industrialized future gentler for ourselves and our children.

Danowski and Viveiros de Castro conclude their book The Ends of the World by suggesting that the way forward may very well be to look into the present heritage of long-standing cultures and traditions, in order to genuinely prefigure the ecological future. They propose that the Amerindian collectives they study, like many other Indigenous collectives, with their mastery of "technoprimitivist bricolage and politicometaphysical metamorphosis," are not figures of the past (as they have almost invariably been seen by modernity) but rather figurations of the future (123). Or, as John Michael Greer suggests in his essay After Progress and his novel Retrotopia (echoing the arguments of the "appropriate technology" movement), we might do well to revisit ways of organizing life that draw on the perfectly good technologies and practices that we have discarded not so long ago. And, as Ernest Callenbach showed already back in the 1970s in his novel Ecotopia (his meticulously researched blueprint for a sustainable society), we currently already have a lot of the tools, technologies and knowledge that we would need to organize human life more ecologically and to survive in the now irreversible Anthropocene. What we need to help us use these tools and ideas with ingenuity, creativity and compassion are new narratives about our place on the planet and about the future.

OVERVIEW OF THE VOLUME

This volume hopes to contribute to this broad and ambitious project by offering up twenty contributions—mostly in the form of academic essays, along with a handful of literary excerpts and scholarly conversations with authors—grouped under five headings that directly reflect the ideas and concerns we have set out in this Introduction: "Temporality and Deep Time," "Eco-Anxiety and Anthropocene Nostalgia," "Indigenous Pasts, Presents and Futures," "Interconnectivity and Animacy" and "Ecotopia and Eco-Futurism."

The first section is meant not to go back in time so much as to bring a wider and deeper timescale into focus, using a larger conceptual lens, as it were, before later sections explore issues of concern to the present and future. In "Stories of Making and Unmaking': Deep Time and the Anthropocene in New Nature Writing," Amy Player examines the way authors such as Robert Macfarlane and Kathleen Jamie engage with

geological timescales to invite readers to reimagine their relationship to the "more-than-human world" in the Anthropocene. Moving from literature to the interplay of word and image, Małgorzata Olsza's "Comics in the Anthropocene: Graphic Narratives of the Apocalypse, Regeneration and Warning" examines three contemporary graphic novels which attempt, in different ways, to deconstruct the modern master narrative of progress and to imagine alternative temporalities in relation to ecological crisis and reconciliation.

Also a direct challenge to the modern presumption of inevitable progress, the next piece, John Michael Greer's "Winter's Tales," is a fictional narrative—structured around three moments in the near to mid-distant future (the years 2050, 2100 and 2150), on the day we currently know as Christmas—of the slow descent from a recently de-industrialized society to a "salvage" economy where no one even remembers affluence. In the conversation that immediately follows, "'Looking to the Past to Reinvent the Future': Writing About the Long Descent, Practicing Green Wizardry," we invite Greer, an independent scholar, science fiction writer and blogger, to reflect on the role of the imagination in helping or hindering us to adapt to the de-industrial future that is inevitably coming our way as our planet's finite resources become increasingly scarce.

The next contribution is an essay by Christian Arnsperger, "How Deep Time Can Help Shape the Present: Existential Economics, Joyful Insignificance' and the Future of the Ecological Transition," which looks at another of Greer's short stories, one which imagines Earth many billions of years into the future, and suggests that Deep Time, with its capacity to awaken a sense of both existential horror and yet possibly renewed joy at human insignificance, can help us imagine new modes of thinking, feeling and being "indigenous" to this planet. This philosophical examination of Deep Time is immediately followed by "Robustness and Vulnerability: Caring for the Earth in an Age of Loss," an extended excerpt from author and conservationist William deBuys taken from two of his books: A Great Aridness: Climate Change and the Future of the American Southwest (2011) and his most recent opus, The Trail to Kanjiroba: Rediscovering Earth in an Age of Loss (2021). Together, these two passages speak to the irreversible changes underway across landscapes and ecosystems all over the planet and evoke the loss of the world we were born into, and how they may lead us to grief but should also awaken our desire to care, cooperate and create community. The last piece of this section is thus a conversation with William deBuys, "'The Paradise of How It Has to Be': Writing About the Future of the Earth in a Time of Decline." In it we invite deBuys to speak to his long and rich career of writing about landscapes, extinction and climate change, and specifically to elaborate on some insights advanced

in his latest book, which describes a care-delivering journey to a remote area of the Himalayas while also weaving together reflections on geological time, scientific discovery, writing and other philosophical matters relevant to facing the current planetary "age of loss."

The second section of the volume picks up on the theme of grief raised by William deBuys and examines a range of emotions aroused by ecological devastation and the prospect of irreversible planetary changes. The first essay, "Firing up the Anthropocene: Conflagration, Representation and Temporality in Modern Australia" by Philip Hayward, discusses a series of paintings and poems which show that European settlers in Australia, after upsetting the long-standing fire management practices used by precolonial Indigenous peoples, have been experiencing terrifying wildfires and eco-anxiety ever since the nineteenth century. Hayward echoes many of the other contributors to this volume in his conclusion that any shift to an ecological future will involve snapping out of "now-ism" and inhabiting time in a distinctly different manner, acknowledging its multiplicities as well as learning from traditional Indigenous Earth stewardship practices. The next essay in this section, Dominika Oramus's "Prophesying the End of Human Time: Eco-Anxiety and Regress in J. G. Ballard's Short Fiction," looks back to the complex and sometimes strangely fatalistic eco-anxiety of the postwar era in two post-apocalyptic short stories by J. G. Ballard from the 1960s. Indirectly alluding to the Doomsday Clock created in 1947 by the Bulletin of Atomic Scientists, Oramus examines how the temporality of these stories is figured in an entirely new manner antithetic to the religion of progress: not by a movement forward, but as a countdown to the end. Alicja Relidzyńska's examination of a wholly new emotional response that has arisen in the era since the term "Anthropocene" was coined in 2000 is the subject of the next essay, "The Nature of Irrevocability: Anthropocene Nostalgia in Hayley Eichenbaum's Photography Series The Mother Road," which looks at a series of eerily empty photographs of the famous monument to postwar petroculture, the Southwest segment of Route 66, and examines the intensely ambivalent form of nostalgia these images evoke. While not explicitly addressing the complex history of Indigenous people in relation to extractivism, the essay gestures towards both their presence and their deliberate erasure through its iconic (and now empty) Southwestern landscapes.

The issue of the next section, "Indigenous Pasts, Presents and Futures," emerges as a central theme of the volume for reasons that we hope to have sketched out convincingly in the earlier part of this Introduction. This section begins with Brygida Gasztold's critical analysis of the postcolonial history of Anthropocene extractivism in her essay, "Environmental Neocolonialism and the Quest for Social Justice in Imbolo Mbue's *How* Beautiful We Were." While Gasztold's contribution focuses on a fictional town in Africa which allows the Cameroonian-American novelist Imbolo Mbue to speak to a broad colonial history of exploitation and expropriation-in this case, through oil drilling-on the African continent, Emily Childers and Hannah Menendez bring our attention to two recent novels by Indigenous authors in North America in their essay, "Apocalypse When? Storytelling and Spiralic Time in Cherie Dimaline's The Marrow Thieves and Louise Erdrich's Future Home of the Living God." Both novels engage with the conventions of speculative fiction while paying homage to Indigenous storytelling practices, resilience and futurity. Indigenous Futurism and the way in which it can renew reflection on an ecological future is also the explicit focus of the third essay in this section, Erika De Vivo's ethnographically-informed discussion of an art and culture festival organized in 2018 by members of the Sámi people of Northern Scandinavia: "Márkomeannu#2118, the Future is Already Here: Imagining a Sámi Future at the Intersection of Art and Activism." Throughout this section, the power of the actuality and futurity of Indigenous cultures comes to the fore, thus setting the stage for a genuine recognition, in the present and for the sake of the future, of the crucial ecological knowledge these cultures possess when it comes to Nature's deep integrity.

Accordingly, the next section deals with "Interconnectivity and Animacy" by building on the issues raised in the previous section and broadening them to a range of encounters, contexts and artforms. In "The Only Way Out Is In': Transcending Modernity and Embracing Interconnectedness in Gary Snyder and Kenneth White," Monika Kocot examines the influence of Buddhism and the master trope of interconnectivity known as Indra's net in the poetry of two North American poets. In the next essay, "Past Conditional Subjectivities: Enacting Relationships with the Non-Human in the Work of Ana Mendieta," Matthew Tedford looks at animacy and focuses on a Cuban-American artist whose artistic practice radically challenged the rigid boundaries between the human and the non-human associated with modernity under capitalism and colonialism. Also addressing the relationship between the human and non-human, Katarzyna Ostalska's essay, "Enlightenment Is a Shared Enterprise': Tree Ecosystems and the Legacy of Modernity in Richard Powers's The Overstory," surveys the latest science of forest ecosystems alongside Buddhist values of spiritual enlightenment to interrogate the legacy of modernity in the contemporary world. The last essay of this section, Courtney A. Druzak's "Apocalypse . . . Eventually: Trans-Corporeality and Slow Horror in M. R. Carey's The Girl with All the Gifts," follows up on the tree-human assemblages discussed by Kocot and adds in fungal-human hybridity as a way to reflect on human "enmeshment" in the natural world. All these essays shed light on the much-needed decentering

of human beings in their relationship to the rest of the planet, which forms the bedrock of any viable ecological future and for the reinvention of truly sustainable human societies.

This reinvention is what the final section, "Ecotopia and Eco-Futurism," focuses on. It begins with an updating of Ernest Callenbach's classic novel of sustainable community, *Ecotopia* (1975), into a screenplay for a television series, by Elizabeth Watson. Based on Callenbach's extensive research and updated for the small screen, Watson's script allows us to collectively visualize a green city based on principles of respect for planetary boundaries, steady-state and circular economic systems rather than perpetual growth, and a quality of life that fosters well-being for both humans and the biosphere. The episode is followed by a conversation with Elizabeth Watson, "Did You See Last Night's Episode of Ecotopia?': How a TV Series Could Help Move Climate Action Forward," in which she speaks to the role of the popular imagination in motivating political change by offering concrete ideas of what sustainability could mean. Not only does the world of Ecotopia sidestep the pitfalls of apocalypticism and the blind faith in progress alike, it also explores the cultural and psychological implications of living in a sustainable society while offering a positive incentive to change. The final essay of the volume, Katarzyna Więckowska's "Appositions: The Future in Solarpunk and Post-Apocalyptic Fiction," continues the exploration of models of livable futures in her critical survey of solarpunk fiction, a new literary genre that is explicitly committed to moving beyond the pessimism of contemporary post-apocalyptic scenarios, as well as the blind faith in inevitable progress that, together, sabotage our ability to think and act effectively in the face of the current climate crisis. It is our hope that this volume's examination of both critical and creative efforts towards imagining an ecological future will also contribute—however modestly—to this urgent task.

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Agnieszka Soltysik Monnet is Professor of American Literature at the University of Lausanne and co-director of the New American Studies Master's specialization program. She has published two monographs, eight edited collections of essays, and numerous articles on topics ranging from the Eco-Gothic to American counterculture. https://people.unil.ch/agnieszkasoltysikmonnet/

https://orcid.org/0000-0001-7474-1205

agnieszka.soltysikmonnet@unil.ch

Christian Arnsperger is Professor of Sustainability and Economic Anthropology at the University of Lausanne and coordinator of the Master's program in Foundations and Practices of Sustainability. He specializes in the existential and ecological critique of capitalism, post-

growth economics and sustainable counterculture, the transition from circularity to "permacircularity," and the systemic links between money and sustainability.

https://igd.unil.ch/ChArnsperger/en/publications/

https://arnsperger-perma-circular.com/

https://orcid.org/0000-0002-9451-5405

christian.arnsperger@unil.ch