Ecological Finitude as Ontological Finitude: Radical Hope in the Anthropocene[1]

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Penultimate version. Please cite the published version, pp175-192 in *The Task of Philosophy of in the Anthropocene*, edited by Richard Polt and Jon Wittrock (Roman & Littlefield, 2018)

1. Introduction

The proposal that the earth has entered a new epoch called "the Anthropocene" has touched a nerve. By focusing attention on the fundamental vulnerability of our planetary abode and the responsibility that human beings bear for failing to care properly for it, the term acquires an elevated rhetorical potency, not to mention a sense of practical urgency. The question – What is to be done? – imposes itself, albeit uncomfortably. The human organism has been able to flourish in an ecological niche whose unraveling has been vastly accelerated on account of its own activities and industries. With the gradual undoing of this hospitable ecological niche, we find ourselves participants in the long history of emergence and disappearance of entities on this planet, entities that emerge and flourish in a temporary clearing whose contingent conditions eventually revoke the vital opening. What can we do?

One unsettling part of having our ecological finitude thrust upon us with the term "Anthropocene" is that, as Nietzsche said of the death of God, "we" ourselves are supposed to be the collective doer responsible here, yet this is a deed which no one individual meant to do and whose implications no one fully comprehends. For the pessimists about humanity, the implications seem rather straightforward: humanity will die. Yet, the death that we are facing cannot be assumed to be simply biological death or extinction. Indeed, even if we are not running headlong into a mass extinction and wholesale biological demise, we do seem to be facing the possibility of an *ontological* death. Our ecological finitude is the harbinger of our ontological finitude. The vulnerability we confront in the Anthropocene is what Jonathan Lear, in a different context, called *ontological vulnerability*.[2]

Following a certain strand of the reception of Heidegger's interpretation of death, we understand ontological finitude as the finitude of our historical *world*, where a world is relatively coherent and holistically organized "clearing" in which things, people, and possibilities show up, make sense, and matter.[3] Worlds die too. The ways of life they enable can become impossible,

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[1] In preparing this text, we have benefitted from conversations and exchanges with Hubert Dreyfus, Francisco Gallegos, Richard Polt, Khang Ton, Terry Winograd, Jon Wittrock, and Lee Worden.

[2] Jonathan Lear, *Radical Hope: Ethics in the Face of Cultural Devastation* (Cambridge: Harvard University Press, 2006), p. 50.

[3] The strand of Heidegger interpretation we have in mind is rooted in the work of John Haugeland. See Haugeland, *Dasein Disclosed*, ed. Joseph Rouse (Cambridge: Harvard

ceasing to make sense and matter. The constitutive susceptibility of all human worlds to their eventual collapse is what we mean by *ontological finitude*. As presumed denizens in a dawning Anthropocene we are called to assume this ontological finitude as our own.

It is important to appreciate now that the very term "Anthropocene" has generated a sometimes bitter debate, as a recent backlash against certain assumptions and narratives of the "anthropocenologists" has demonstrated.[4] For one thing, the claim that the activities of human beings have had a decisive and destructive impact on the earth's environment rests upon a false dichotomy between human Society/Culture and Nature/The Environment. That is, the very notion of an Anthropocene assumes that there is such a thing as *the* environment "out there" and that it should be left to its own affairs, as though it were a neutral, monolithic, and exogenous container for the organisms, including human beings, who happen to live in it.[5] For another thing, the term "Anthropocene" etymologically lays responsibility for the shifts taking place in our climate and ecology at the feet of an abstract, unified, world-historical agent called "the Anthropos," instead of laying responsibility at the blood-, carbon-, and capital-soaked feet of a few industrialized nations.[6] A rejection of the tendentious abstraction of the Anthropos and its supposed separation from Nature has generated a kind of terminological game among critical Anthropocene commentators: Take the *Anthropos* out of the Anthropocene. Suggested alternatives include: Capitalocene, Androcene, Thermocene, Thanatocene, Phagocene, and

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University Press, 2013). Lear himself mentions how much his account of ontological vulnerability was influenced by Haugeland's interpretation of Heidegger.

[4] "Anthropocenologist" is a term introduced by Christophe Bonneuil and Jean-Baptiste Fressoz, *The Shock of the Anthropocene*, trans. David Fernbach (New York: Verso, 2016). Bonneuil and Fressoz productively urge us "to learn to distrust the grand narratives that come with the Anthropocene concept" (p.49).

[5] See Bonneuil and Fressoz, *The Shock of the Anthropocene*, Chapter 2, "Thinking with Gaia"; Jason W. Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (New York: Verso, 2015), especially Part III, "Historical Nature and the Origins of Capital"; Matthew Lepori, "There is No Anthropocene: Climate Change, Species Talk, and Political Economy," in *Telos* 172 (Fall 2015): 103–24, esp. pp. 114 and 118, doi:10.3817/0915172103. See also, in the same issue, Zev Trachtenberg, "The Anthropocene, Ethics, and the Nature of Nature," *Telos,* 172 (Fall 2015): pp. 38–58, doi:10.3817/0915172038, and Christopher Cox, "Faulty Presuppositions and False Dichotomies: The Problematic Nature of "the Anthropocene'," *Telos,* 172 (Fall 2015): pp. 59–81, doi:10.3817/0915172059. Another articulate voice expressing these concerns is Kathleen Morrison, "Provincializing the Anthropocene," *SEMINAR* 673 (September 2015), p.76.

[6] See, again, Bonneuil and Fressoz, *The Shock of the Anthropocene*, Chapter 4, "Who is the Anthropos?"; Moore, *Capitalism in the Web of Life*, Chapter 7, "Anthropocene or Capitalocene?"; Lepori, "There is No Anthropocene," p. 124. See also Eddie Yuen, "The Politics of Failure Have Failed: The Environmental Movement and Catastrophism," in Sasha Lilley et al., eds., *Catastrophism: The Apocalyptic Politics of Collapse and Rebirth* (Oakland: PM Press, 2012), p. 40.

others.[7] Granting the importance of these conflicts of interpretation, they do not productively draw us into a serious confrontation with the phenomenon of *ontological vulnerability* raised by the very notion of an Anthropocene, however flawed and fraught the term itself may be. This ontological vulnerability is one of *the* defining issues of the historical epoch we've inherited. The calling we have now to respond to the Anthropocene (however this "we" gets interpreted) is tinged by the possibilities both of overwhelming tragedy and of historical heroism.

According to one sobering book among the vast proliferation of texts addressing the core of the Anthropocene, namely global climate change, we today face a crisis that is "uniquely global, uniquely long-term, uniquely irreversible, and uniquely uncertain."[8] How can we begin to face up and respond to this ecological and ontological finitude? Echoing a provocative recent formulation of the issue, the question becomes: How can we learn to die?[9] As we have said, this question cannot be posed in the everyday sense of the word *die*. An impending death does not mean simply that we are going into extinction. To say that we are dying is to say that we are heading into a future in which our current world as the scene and abode of our taken-for-granted practices, projects, and identities will collapse. This future is unimaginable from the perspective of our present. If our world is collapsing, how can we prepare a possibility for succeeding generations to emerge into a new world, a new configuration of practices, of what makes sense and matters?

Our approach in this essay will be based on an ontological reinterpretation of the meaning and importance of death and finitude. In this we take up the suggestion by Jonathan Lear that, in the face of the impending collapse of one's world, a peculiar form of hope, *radical hope*, and a peculiar kind of imaginative excellence for new possible ways of going on are called for.[10] Yet

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[7] On "Capitalocene," see Jason W. Moore, ed., *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism* (Oakland: PM Press, 2016). On "Androcene," see Trish Glazebrook, "Gynocentric Bio-Logics: Anthropocenic Abjectification and Alternative Knowledge Traditions," *Telos* 177 (Winter 2016), 61-82. doi: 10.3817/1216177061. The rest of the suggested terms in our list come from Bonneuil and Fressoz, *The Shock of the Anthropocene*, Part Three. One need not look far for yet further alternative expressions taking the *Anthropo* out of the "Anthropocene."

[8] Gernot Wagner and Martin L. Weitzman, *Climate Shock: The Economic Consequences of a Hotter Planet* (Princeton: Princeton University Press, 2015), p. 8. In fact, the authors specify that climate change is "almost" unique in each of these characteristics, but add that it is "definitely unique" in combining all four.

[9] With this formulation, we refer to Roy Scranton, *Learning to Die in the Anthropocene*: *Reflections on the End of a Civilization* (San Francisco: City Lights Books, 2015).

[10] Lear's account of radical hope is brought to bear on climate change also by Allen Thompson, "Radical Hope for Living Well in a Warmer World," *Journal of Agricultural and Environmental Ethics*, Vol. 23, Number 1-2 (2010), doi: 10.1007/s10806-009-9185-2, and Byron Williston, "Climate Change and Radical Hope," *Ethics and the Environment*, Vol. 17, No. 2, (Fall 2012), pp. 165-186. doi: 10.2979/ethicsenviro.17.2.165. These accounts pertain more to the virtue-

we will have to go beyond where Lear leads, for the conception of radical hope he puts forth is vacuous. According to Lear, radical hope means holding on to a "commitment ... only to *the bare possibility* that, from this disaster, something good will emerge," where "something good" will involve some radically re-imagined and re-oriented way for the Crow way of life to go on.[11] On our way to articulating a more robust form of radical hope in the Anthropocene, we will also consider and criticize Hubert Dreyfus's response to the limitations of Lear's proposal. For Dreyfus, pre-technological marginal practices left over in our culture from past historical worlds could provide a foundation for a reconfiguration of our current world, a way of emerging revitalized from world collapse. But Dreyfus's backwards-looking orientation is one-sided: our world is also a forward-directed historical drift, with new possibilities and marginal practices emerging in the present. By becoming better attuned to the onward drift of historical emergence we can summon a more fecund radical hope that will enable us to participate with greater care in the unfolding of our ecologically and ontologically fraught historical moment.

2. Ontological Vulnerability

In *Radical Hope*: *Ethics in the Face of Cultural Devastation*, Jonathan Lear presents an interpretation of what he calls the "collapse," "devastation," or "breakdown" of the cultural *world* of the Crow Indian. The breakdown of a world is different from the breakdown of a characteristic thing or relationship that we normally find *within* that world. In this section, we re-trace some of Lear's steps so that we can draw on his interpretation of the significance of world-collapse when we present our interpretation of the significance of the Anthropocene.

The breakdown of a world is what you can call an *ontological event*, an event that radically reconfigures the field or space (like the Heideggerian "disclosive space") within which our lives unfold. This is why Lear himself uses the terminology of a *field of occurrences*: the breakdown of a world is a breakdown of the field in which and in terms of which things happen and matter to people. In Lear's apt words, the breakdown of a world is the breakdown of "a field in which occurrences occur."[12]

Our susceptibility to the breakdown of our field of occurrences is what Lear calls our *ontological vulnerability*. Thus, although Lear's penetrating book is concerned specifically with the breakdown of the Crow Indian world, he claims to be articulating a general or structural vulnerability affecting the human condition as such: "What I am concerned with is an *ontological vulnerability* that affects us all insofar as we are human."[13] All worlds are constitutively susceptible to such collapse.

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ethical implications of radical hope in the face of environmental collapse, rather than the ontological implications that concern us here.

[11] Lear, *Radical Hope*, p. 97.

[12] Ibid., p. 34.

[13] Ibid., p. 50.

2.1 When the Buffalo Leave

Lear pursues his exploration of our ontological vulnerability by way of a reflection on some “haunting words” uttered by Plenty Coups, “the last great chief of the Crow nation.”[14] In retrospective conversations, Plenty Coups refused to relate any stories about events in his life or the activities of the Crow after their confinement to a reservation and the decimation of the buffalo they traditionally followed and hunted. Lear quotes Plenty Coups:

> I can think back and tell you much more of war and horse-stealing. But when the buffalo went away the hearts of my people fell to the ground, and they could not lift them up again. After this, nothing happened.[15]

The last phrase – “After this, nothing happened” - is what preoccupies Lear and should preoccupy us as well. This utterance gives expression to the phenomenon of ontological vulnerability that also confronts our world in the Anthropocene. To say that “nothing happened” is not to say that everyone stopped what they were doing and passively sat around; it is not to say that “nothing occurred” anymore. As Lear puts it, with the leaving of the buffalo, “What we have in this case is not an unfortunate occurrence, not even a devastating occurrence like a holocaust; it is a breakdown of the field in which occurrences occur.”[16] The encompassing field of intelligibility and affectivity within which and in terms of which the traditional activities got their point and mattered is what broke down. Hence, even if the bodily movements and even psychological intentions that used to constitute traditional activities took place, they did not *count* as the traditional activities, because they could no longer matter in the same way: the broader field of interrelated activities and significance in terms of which the bodily movements and intentional states counted as the traditional activities was no longer “there.”[17]

Following Heidegger, Lear insists on a distinction between entities that show up and make sense in a world, and the world itself as a “space” or “field” within which entities can make sense and things can happen. Why does the absence of a particular entity within the world - the buffalo in the case of the Crow Indians - trigger the breakdown of the encompassing field of occurrences? The answer is that the buffalo were the ontical focal point, a locus of gathering for the whole Crow identity and the Crow world. Things mattered and made sense, counted as disaster or blessing, victory or disgrace, crucial or trivial to a Crow to the extent that they stood in some relation to activities bound up with the roaming hunt of the buffalo, including the

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[14] Ibid., p. 1.
[15] Ibid., p.2
[16] Ibid., p. 34.
[17] Ibid., p. 43 and p. 49.

preparations for and engaging in battle with traditional enemies (like the Sioux), and the celebration of victory or mourning of defeat.

The buffalo gathered the world of the Crow; that is, the buffalo ontically founded the "worldhood" of the Crow world. For Heidegger, a world is a field constituted by the interrelations between characteristic equipment, the (or a set of) identities and roles of the people who use the equipment, and the (or a set of) shared norms, rules, and standards for the appropriate and excellent ways to use the equipment and carry out the requirements associated with the relevant identities and roles. It helps here to consider as an analogy the "world" of a cooperative game such as baseball. The world of baseball is made up of an array of equipment (bats, balls, bases, gloves, mitts, etc.), roles (pitcher, catcher, batter, umpire, audience), norms (no swearing at the catcher, no spitting at the audience), standards (the ball is to have such and such a weight), and constitutive rules (three strikes and you're out). So, it is only in the space or world of the game that some action can count as a "strike," "foul ball," or a "home run." Just standing around and swinging a stick at a ball cannot be a strike.[18] Strikes take place – *occur* – in the world of the game. Without the world of the game being sustained, there can be no baseball-occurrences, nothing baseball-like would be able to happen. The same general structure holds true for all cultural worlds – the world of the Crow, and our own world.

Ontological vulnerability is what we've called the constitutive susceptibility to collapse of any historical world. That we are intrinsically marked by such vulnerability should not come as any surprise to us. People get hints of the possibility of world collapse on a personal register when they undergo identity crises or anxiety attacks in which everything they took for granted and thought to define them now shows up as trivial and pointless. Going to any history museum confronts you with artifacts from bygone collapsed worlds, the paraphernalia of which are now but relics, lifted out of their former field of occurrences as an ontical residue of a way of being that had formerly flourished. While it may be thus lodged into our commonsense that worlds are susceptible to collapse, as we all know that languages die, we tend not to pay attention to this finitude or live in the light of its significance. Here, again, is Jonathan Lear:

> But a culture does not tend to train the young to endure its breakdown – and it is fairly easy to see why. A culture embodies a sense of life's possibilities, and it tries to instill that sense in the young. An outstanding young member of the culture will learn to face these possibilities well. The situation we are dealing with here, however, is the breakdown of a culture's sense of possibility itself. This inability to conceive of its own devastation will tend to be the blind spot of any culture.[19]

Our purpose in reviewing Lear's interpretation of the collapse of the Crow world is to suggest that, in the face of the Anthropocene, our ecological vulnerability can usher us into an

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[18] Here we are drawing on Haugeland, "Dasein's Disclosedness," in *Dasein Disclosed*.
[19] Lear, *Radical Hope*, p. 83.

appreciation our ontological vulnerability, thus shining a cold hard light on what Lear above calls "the blind spot" of our own culture: we are called to face and respond to the eventual collapse of our own world. It is in this context that Lear's notion of radical hope takes on its relevance to our current situation. Before turning to an account of radical hope, it is worth reflecting on Lear's description of the role played by the buffalo in focusing and organizing the Crow world and how this may be relevant to thinking about our own world today. What, if anything, might be *our* buffalo? And to what extent is the Anthropocene a threat to our buffalo and thus to the stability and viability of our world?

2.2 But What Are Our Buffalo?

To answer such questions adequately and to begin to explore in more detail how the Anthropocene can be understood as a forced confrontation with the ontological vulnerability of our current world, we need first to take account of some structural differences between our current world and the Crow Indian world as presented by Jonathan Lear.

The Crow world, at least as described by Lear, was a traditional society with a highly unified hierarchical social structure and comparatively circumscribed range of social roles and identities (Chief, elder, hunter, warrior, mother, etc.). Given the largely traditional structure of Crow society and its stable shared understanding of the normative criteria for what counts as an excellent way of life, it is relatively straightforward to identify the elements of their culture that focus their world and practices – roaming with and hunting the buffalo, doing battle with the traditional enemies, and so on. Because of this, Lear (and Plenty Coups) can locate in the buffalo an ontological focal power: Without the buffalo, *nothing* can happen.

Our current world in the age of the Anthropocene (which we characterize in more detail below), on the other hand, is post-traditional and highly differentiated. Vast arrays of identities, spheres of value, and social roles are available and yet little shared understanding obtains regarding what counts as an excellent form of life and what grounds such normative claims. Furthermore, whereas the Crow world was relatively localized, our current world is increasingly globalized such that the events in one sub-world (buying a pair of blue jeans, or writing an email on a smartphone, for example) are intimately interconnected with events in another sub-world, perhaps on the other side of the globe (garment workers in Bangladesh, workers at Foxconn in China). Moreover, the sub-worlds on our globe are interconnected by an ever-growing computer network and transportation system, not to mention capitalism itself (as in our examples).

As a general way of characterizing our current world, we roughly follow Heidegger's account of the "Enframing" (*Ge-Stell*) character of modern technology which takes our natural environment (including ourselves and each other) as a pool of natural (and human) resources, or

the "standing reserve" (*Bestand*), on hand to be used up with maximal efficiency.[20] In this world, there is no pervasively shared sense of what makes a way of life excellent, though, in a rough caricature, the dominant way of being is one in which the efficient execution of one's job, efficient satisfaction of one's desires, and efficient accumulation of material wealth count as the good life.

Because of all of this, it is difficult to come up with a singular answer to the question: What is *our* buffalo? Is there some inner-worldly entity that serves the same ontological gathering function that the buffalo did for the Crow? It seems unlikely that there is any *one* thing that serves the same world-gathering function, and that holds together and focuses all of the dispersed practices comprising our world. However, the Heideggerian account of modern technology can still provide a clue.

Perhaps our buffalo is the fossil fuel that we have relied upon systematically since the maturation of the industrial revolution in order to power the machines and technological devices whose sprawling pervasiveness is the characteristic mark of our world and whose unending pollution has propelled us to the threshold of the Anthropocene. Our dependence on this buffalo has now begun, in the Anthropocene, finally to undermine the continuation of the way of life in which it so prominently figures. Every year brings new devices which soon become a necessity so that we can keep up with the others striving to keep up with modern life, devices with which we can more fully be available for communication, keep track of the extensiveness of our friends and contacts, measure the rhythms of our bodies, find the most efficient route to avoid traffic, monitor the temperature of our home, and engage in various life hacks while efficiently taking advantage of the ever-expanding Internet of Things. Perhaps, pushing this line of thought further, our buffalo is not fossil fuels, since one can imagine nuclear power and so-called renewables eventually taking the place of fossil fuels. Perhaps our buffalo is a kind of entity at a higher lever of abstraction: *energy* itself, the portable energy we harness from the natural world in order to power the machines and devices without which our current form of life and world would be unimaginable.[21] Such speculations can go on, but we do not have to conclude here what to designate as *our buffalo*. Whether it is our technological devices themselves or the energy with which we power our devices, or something else, the ontological significance of the Anthropocene is such that our field of occurrences – whatever its "buffalo" – is susceptible to collapse. What is to be done?

2.3 Radical Hope and the Possibility of Cultural Reconfiguration

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[20] Martin Heidegger, "The Question Concerning Technology," in *The Question Concerning Technology and Other Essays*, trans. William Lovitt (San Francisco: Harper and Row, 1977).

[21] On the relevance of the phenomenon of energy for the Anthropocene, see, in the present volume, Michael Marder, "Philosophy's Homecoming," especially §1, "Energy."

In the second half of *Radical Hope*, Lear outlines his interpretation of the virtues that were open to the Crow in the face of the collapse of their world. According to Lear, what the Crow required was a peculiar kind of hope, radical hope, and an extraordinary excellence of the poetical imagination so that, in response to the breakdown of a world, currently unforeseen and radically new possibilities for going on might be revealed.[22]

Radical hope, for Lear, is a stance of a *commitment to possibility*. But this is a peculiar kind of commitment: it is a commitment to something completely indeterminate and currently unimaginable: "The commitment is only to the bare possibility that, from this disaster, something good will emerge: the Crow shall somehow survive."[23] Lear adds later that the "aim [of radical hope] was not merely the biological survival of the individual members of the tribe — however important that was — but the future flourishing of traditional tribal values, customs, and memories in a new context."[24] Such a survival is what we can call "ontological survival," the survival of the Crow way of being and a world, the continuation of the Crow field of occurrences.

Radical hope is a stance of maximal openness or receptivity to radically new possibilities in a situation of heightened ontological vulnerability, a situation in which one's way of life has become impossible. Hubert Dreyfus has posed a potent skeptical challenge to Lear's interpretation of Plenty Coups' actions and radical hope.[25] We will frame our appropriation of the notion of radical hope in the context of the Anthropocene as a correction of Dreyfus's alternative to Lear's view. According to Dreyfus, Lear's emphasis on the "bare possibility" of a future continuation of the world is just too empty to be of any real relevance.[26] Dreyfus points out that Lear provides no concrete example or explanation of how one could "take up traditional values that have become unintelligible."[27] In turn, Dreyfus offers his own Heidegger-inspired approach to the reinterpretation of traditional practices: what he calls "reconfiguration."

Dreyfus contends that leftover practices from previous phases of a cultural world remain operative in the margins of a current mainstream culture. Cultural "reconfiguration" happens when these marginal practices get re-interpreted and made central again in the culture, gathered into a new configuration of significance or cultural paradigm. One of Dreyfus's favorite examples of a recently failed but still illuminating attempt at cultural reconfiguration was the Woodstock music festival of 1969.[28] "Even though it failed," Dreyfus remarks, Woodstock

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[22] Lear, *Radical Hope*, p.93, p.117, and p.146. Lear also mentions courage as an important virtue for those facing world collapse.

[23] Ibid., p.97.

[24] Ibid., p.145.

[25] Hubert Dreyfus, "Comments on Jonathan Lear's *Radical Hope*," *Philosophical Studies* 144: 63–70. DOI 10.1007/s11098-009-9367-9

[26] Ibid., p. 68

[27] Ibid., p. 69.

[28] Ibid., p.69. For an extended discussion of this example, see Dreyfus, "Heidegger on the Connection between Nihilism, Art, Technology, and Politics," in *The Cambridge Companion to*

"helps us understand that we must foster our receptivity and preserve the endangered species of pre-technological practices that remain in our culture, in the hope that one day they will be pulled together in a new paradigm."[29]

We fully agree with Dreyfus's reservation about the emptiness of Lear's notion of radical hope as well as the lack of orientation in Lear's position regarding the possibility of cultural reconfiguration. However, Dreyfus's own account of reconfiguration is overly constrained and backward-looking. Reconfiguration is a Janus-faced phenomenon. The marginal practices that provide the material and impetus for cultural reconfiguration do not come only from the marginal leftovers of the past. Dreyfus's account of reconfiguration fails properly to account for what we will call *historical emergence.* The emergence of new entities and the happening of unexpected events harbor ontological power that could enable a reconfiguration of a world.

There is a more robust account of world reconfiguration — one that allows for but does not develop in detail the crucial role of historical emergence — sketched in *Disclosing New Worlds,* a book on which both Dreyfus and one of us (Fernando Flores) collaborated.[30] In that work, Flores, Dreyfus, and Spinosa refer, for example, to Sherry Turkle's research into the incipient practices in the early years of the Internet to provide an example of how *new* marginal practices of "identity morphing" (having multiple screen identities and avatars that are different from normal everyday identities) emerged along with the personal computer and the connectivity of the Internet and began to reconfigure cultural practices around identity and relationships.[31] Additionally, in the phenomenology of the historical entrepreneur, *Disclosing New Worlds* gives further clues to the way everyday practices get reconfigured: "genuine entrepreneurs are sensitive to historical questions, not the pragmatic ones, and ... what is interesting about their innovation is that they change the style of our practices as a whole in some domain."[32] An example given in *Disclosing New Worlds* is the way King Gillette contributed to a change in the style of personal hygiene with his introduction of the disposable razor, a tool that is no doubt part and parcel of the overall emphasis on efficiency characteristic of our technological epoch. Yet what we are here calling "historical emergence" and "reconfiguration" need to be further developed, especially with regard to the task of responding to our ontological vulnerability as foisted upon us in the Anthropocene.

We are historical beings who live in historical worlds, that is, worlds that undergo reconfigurations of their field of occurrences over time. In the history of the West, we have had a

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Heidegger, ed. Charles Guignon, 2nd ed. (New York: Cambridge University Press, 2006). See also Hubert Dreyfus and Sean Kelly, *All Things Shining: Reading the Western Classics to Find Meaning in a Secular Age* (New York: Free Press, 2011), pp. 127ff.

[29] Dreyfus, "Comments on *Radical Hope*," p. 69.

30. Charles Spinosa, Fernando Flores, and Hubert Dreyfus, *Disclosing New Worlds: Entrepreneurship, Democratic Action, and the Cultivation of Solidarity* (Cambridge: MIT Press, 1997).

[31] Ibid., p.13.

few major cultural reconfigurations, milestones along the path that Heidegger called "the history of being," such as the shift from the Homeric world to the classical Greek world of Plato, the shift brought about by Jesus, and the massive reconfiguration from the medieval to the modern world as focused in the writings of Descartes. Regardless of whether this is the real history of being, or just the history of what philosophers have said about being (as Rorty once quipped), we can say this much: our fields of occurrence are not static; they are constitutively susceptible to the ongoing drift of historical reconfiguration. Even though we cannot predict the outcome or control the overall direction of such a shift, we can learn to be actively receptive to what is gathering. Historical and ontological change is not always an event that happens *to* us; as the peculiarly historical entities that we are (world disclosers), we can participate in this unfolding. In order to do so, we need to cultivate our own historical receptivity, our ability to detect the ripening of newly emergent possibilities in a historical moment. We can only briefly gesture here at what it would mean to cultivate our receptivity to historical emergence.

As we have briefly mentioned above, new practices, along with new entities, technologies, identities, and ultimately new understandings of what is important and possible, *emerge on the margins of the present* and shape our trajectory into the future. While it is no doubt true that our worlds are rooted in practices of the past (as Dreyfus emphasized), the way the past practices shape our future trajectory is always open to changes that transpire and emerge unexpectedly in the present. To see examples of this phenomenon, it helps to look to the characteristic components of the everyday network of equipment (like disposable razor blades, cell phones, or automobiles) which we use in our daily activities and which shape the habits and overall style of our being in the world. One just has to look again at the way the personal computer, and then the smartphone and mobile connectivity emerged and cascaded in recent decades, reshaping the style of our everyday practices in areas such as communication (text messaging and photo and video sharing), education, peer to peer financial transactions, food consumption (delivery services), books, streaming services for television, movies, and music, transportation services ("ride sharing" applications), and everyday getting around (the ubiquity of GPS systems). Even though many of these practices still remain largely in tune with the technological enframing way of being dominant in our times, we can nevertheless see them as emergent marginal practices that may eventually be gathered into larger-scale, yet hitherto unforeseen cultural reconfigurations that will draw us to relate differently to each other and our natural environment.[33] We can anticipate already certain contours of the worlds to-come, for

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[32] Ibid., pp. 42-43.

[33] For an account of the way technological devices and connectivity are shifting social habits, see Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* (New York: Basic Books, 2012); for a less alarmist interpretation, see Danah Boyd, *It's Complicated: The Social Lives of Networked Teens* (New Haven: Yale University Press, 2014). Another useful recent popular book in this literature dedicated to monitoring and commenting upon the shifts in our practices elicited by technological emergence is Kevin Kelly, *The*

example, in the way national borders are losing the significance they have had for millennia in defining centers of power and identity. Internet connectivity, genetic engineering, and geoengineering all can wreak world-impacting effects that cannot be contained by national borders. What overall significance this shift will have and how will it shape a future field of occurrences cannot yet be seen.

The above examples provide hints of how small-scale contingent emergences of new components in our everyday "equipmental contexture" (to use a phrase from early Heidegger) can accumulate and eventually gather into broader shifts in our world, our sense of identity (that is, of who we are and what we stand for) and field of occurrences. Think too of how electricity went from a strange, marginal curiosity manipulated by magicians to pervading almost every aspect of our lives and radically expanding our horizon of possibilities. Such reconfigurations are not limited to the kinds of backward-looking detection of marginal practices left over from previous historical worlds and pre-technological understandings of being. Nor are they limited to the heroic cultural figures like Descartes and Jesus. World reconfiguration is a skill every human being as an essentially historical being is capable of cultivating, if we develop the right sensibilities for observing and participating in the ongoing emergent transformations in our practices, attitudes, and surrounding equipmental context. In refining this ability, we amplify our receptivity to new possibilities (and threats) emerging on the present margins. Such a heightened sensibility for everyday historical emergence would provide the forward-looking complement to Dreyfus's backward-looking openness to marginal practices left over in a culture from the past, and can help provide us a more robust orientation in responding to the potential collapse of our current world. Yet there are no guarantees, and no formulae to follow in such a navigation of the drift of history.[34]

It is important to emphasize that such emergent shifts in our worlds happen not just on the level of things and technologies, but also in our conversations, political sensibilities, and global mood. Indeed, the ongoing discursive explosion around the Anthropocene (and climate change more generally) is an indication that a shift in global mood and openness to new possibilities is gathering. Thus, the radical hope and imagination for a future shift in our practices does not have to be a hope or imagination for the "bare" possibility that something will change; it can be a hope and imagination fueled by an active receptivity to the ways in which things and possibilities historically emerge.

Inevitable: *Understanding the 12 Technological Forces That Will Shape Our Future* (New York: Viking, 2016)

[34] Moreover, rather than there gathering one unified world, in the wake of the age of enframing, what might emerge is a plurality of temporary local-worlds across which we will be drawn to move. For discussion about the emergence of a plurality of temporary local worlds as opposed to a unified, singular post-technological world, see Hubert L. Dreyfus and Charles Spinosa, "Highway Bridges and Feasts: Heidegger and Borgmann on How to Affirm Technology," *Man and World* 30:2 (1997), reprinted in Hubert L. Dreyfus, *Background Practices: Essays on the Understanding of Being*, ed. Mark Wrathall (Oxford: Oxford University Press, 2017).

With the emergence of new marginal practices, new technologies, and new forms of art in initially circumscribed domains, world-reconfiguration transpires and can be focused and accelerated by suitably sensitive participants in our historical drift. Again, this isn't a matter of waiting for someone to become the next Jesus or Descartes. The kind of shifts we are talking about happened with Pasteur for public health, with Faraday for electricity, with D.W. Griffith for narrative cinema, with Martin Luther King, Jr. for civil rights, with Black Sabbath for heavy metal music, with Steve Jobs for mobile connectivity, and so on. And such shifts are happening today in a still more diffuse way with questions about gender and sexual orientations, as popular shows like *Transparent* reveal and focus—and with issues surrounding the human being's relation to the earth, as the intensifications of Anthropocene and climate change discourses reveal.

3. Historical Emergence

In an earlier account of what we call "the drift of historical emergence,"[35] we elaborated on the example of the emergence of practices and attitudes around vaccination and public health that transpired on the basis of Pasteur's detection and interpretation of microorganisms, but we intend for the account to be generalizable.[36] What began as a marginal observation of unidentified squiggling shapes in his microscope, a microscope he was looking into in order to investigate a breakdown in the fermentation of alcoholic beverages, ended up eventually radically reconfiguring our cultural practices and understanding around health, cleanliness, and wellbeing. The whole phenomenon of "public health" as we know it today (with things like standard vaccinations) emerged in Pasteur's wake. But Pasteur should not be seen as some kind of prototypical creative genius. What Pasteur was able to do was be maximally receptive to the historical forces gathering around him, while thereby also opening a space for a whole cascade of subsequent developments in our practices around infection, contagion, and health. Microorganisms had been observed a century before under the microscope of Anton van Leeuwenhoek, but these observations did not have the same world-disclosive import as

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[35] The account of historical emergence that we only briefly sketch here is based on an approach we developed in a study presented in 2013 to the Chilean government. The study, *Surfing Towards the Future: Chile on the 2025 Horizon*, was produced by the Chilean National Council on Innovation for Competitiveness (CNIC), which was led by Fernando Flores between 2008 and 2012. The notion of a "drift" of history (as opposed to, say, a teleologically guided or a nomothetically determined process) is partially inspired by the evolutionary theory of Humberto Maturana and Francisco Varela. See for example, Humberto Maturana and Francisco Varela, *The Tree of Knowledge: The Biological Roots of Human Understanding* (Boston: Shambhala Publications, 1998), Chapter 5, "The Natural Drift of Living Beings." For an account of technological drift that we have found illuminating, see W. Brian Arthur, *The Nature of Technology: What It Is and How It Evolves* (New York: Free Press, 2009).

[36] Our take on Pasteur has been influenced by Bruno Latour, *The Pasteurization of France*, trans. Alan Sheridan and John Law (Cambridge: Harvard University Press, 1993).

Pasteur's. This is not due not only to Pasteur's superior sensitivity to the significance of what was before him, but also due to the greater momentum picked up in the gathering of the historical moment itself by the time of Pasteur. In our terminology, the historical moment was ripe for Pasteur's observations to generate a faint glow or *fulgor*, a dawning of a reconfiguration in our field of occurrences.

Fulgor is a word in Spanish that means "glimmer" or "faint glow." We prefer to leave the word untranslated, because we use it as a technical term to capture the moment when a new configuration of our practices begins to appear, casting an initially faint and unfocused new light on our horizon of possibilities. Thus, a *fulgor* is the dawning of a new reconfiguration in a clearing, in the Heideggerian sense of *Lichtung* (the open space or field in which occurrences occur).[37] In the context of a pre-established form of life and routine of practices, new openings to the future emerge at first as a *fulgor* in the faint light of which new understanding and practices can further develop; these may eventually turn into the new technologies and practices of tomorrow, altering our space of possibilities. A moment of *fulgor* has, for the suitably receptive observer, a characteristic mood of unsettlement accompanied by a sense of promise and a feeling that what is beginning to be understood exceeds one's current ability to grasp and express it. This is often the result of observing and holding onto an anomaly.[38] In this context, we use "anomaly" not in Kuhn's technical sense, but in a related sense to refer to an emergent and unexpected upsurge that has the potential to upset and reconfigure our taken-for-granted way of doing things. Pasteur was initially responding to a breakdown in the fermentation process, but his observation of strange, anomalous, microscopic, moving shapes (what we now call "bacteria") eventually produced a *fulgor* for him pertaining to the phenomena of infection and contagion. For this initial *fulgor* to emerge in the first place, a whole range of historically contingent practices, concerns, and technologies had to have already emerged so that they could contribute to and be focused in the shift about to take place. In Pasteur's case, the microscope as an item of equipment had to have already been on the scene, as did the recently emergent discipline of

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[37] We would like to highlight in passing here that the *fulgor* phenomenon, which can be elicited from a development in technology or, say, an ecological crisis, or the disappearance of buffalo, reveals the intertwinement (rather than the separation and differentiation) of the Heideggerian dimensions of *being* and *beings* (the ontological and the ontical). In this way, our account can be seen as beginning to provide a response to a worry Richard Polt has raised about Heidegger's tendency to insist on a separation between being and beings. Polt writes of a "need to challenge Heidegger's conviction that beings cannot ground be-ing [*Seyn*]," adding that "the attempt to find being emerging *from* beings is an important alternative to Heidegger's separation of be-ing (the event of emergence) from all beings." See Polt, *The Emergency of Being* (Ithica: Cornell University Press, 2006), pp. 245-246. A *fulgor* is precisely a way in which being emerges from beings.

[38] For Flores's earlier account of this sense of unsettlement and how this sense of "anomaly" relates to the way Kuhn uses the term in *The Structure of Scientific Revolutions* (Chicago:

chemistry, the longstanding practice of fermenting alcoholic beverages, shared public concerns with plague, concerns with improving surgical practices, concerns with livestock mortality, and growing interest in cleaning up densely packed urban areas; all of these elements and more accumulated and created the opening in which Pasteur could be receptive to the *fulgor* moment in which he could find a new, ultimately world-disclosive, significance in the squiggling, weird shapes underneath his microscope. Although he himself was not aware of this as such, Pasteur demonstrated the kind of "imaginative excellence" (in Lear's words) that can enable someone to contribute to the disclosure of a new world.

With the discursive explosion surrounding the Anthropocene, as well as climate change more generally (for example, with Pope Francis's recent Encyclical), with fossil fuels as cheap and yet as contested as ever, with climate disaster-events such as "super storms" visiting us with greater frequency, with rising middle classes in India and China that will put exponentially greater pressures on the stability of the earth's environment, with the shifts in emergences pertaining to all of the new technologies we mentioned above, can we now detect the gathering of new historical forces, the setting of a stage for a new *fulgor* that may reconfigure our world? Do we have the historical sensibility to locate our new buffalo? Can we adequately expand our "imaginative excellence" as historical beings, or has our ontological vulnerability been already too drastically exposed? Again, the intuition we've explored here is that, as historical beings, we can all cultivate an imaginative sensibility to the way historical moments ripen and gather around us, not only through refocusing marginal practices left over from the past, but by focusing new marginal entities and practices that emerge in the present. Of course, we cannot expect that any shift in a sub-domain of our practices will trigger a wholesale reconfiguration of our world that will stimulate an alteration the habits and practices that have so degraded our natural environment. But we can transmit an increased general sensibility to historical emergence, the ontical cradle of being, which can feed our imagination and overall receptivity to shifts that may start out as marginal, and incrementally gather and be focused in a heretofore still unanticipated shifts in our ways of life. In this way, we can heed Heidegger's own call to prepare a "new beginning" and a "last god" to succeed our technological epoch, and we can do so by cultivating practices of actively receiving and navigating the emergence of being from things.

4. Human beings in the History of Nature

Our ontological vulnerability is not something to bemoan or an ailment for which we should seek a cure; it is part and parcel of our historical way of being. The possible collapse of our world is at the same time the possibility for the emergence of a new world (or worlds), new configurations of our field of occurrences. Whether or not we succeed in heightening our sensibilities for a more active participation in the drift of historical emergence, and whether or

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University of Chicago Press, 1962), see the chapter on entrepreneurship in Flores et al., *Disclosing New Worlds.*

not this is of any use in activating our imaginations for new and alternative ways of going on in a new beginning, we are now invited (if not compelled) to reinterpret ourselves as belonging to the long history of emergence and disappearance of entities and species on this planet. Let us assume this historical belonging in a mood of gratitude rather than despair (as though there is nothing for us to do about it, since global capitalism and technology are too entrenched and unhindered for us to change anything) or techno-arrogance (as though we can count on the progress of technology and geoengineering eventually to solve all problems for us once and for all).

We have been able to take for granted as a stable background condition the ecological niche in which our species evolved on the planet. Yet now, the cumulative impact of our activities is beginning to undermine the very ecological conditions that enabled our lineage to emerge and proliferate in the first place. Our bubble is bursting, to use a metaphor from Peter Sloterdijk.[39] It was only within a specific ecological niche that our species, like any, was able to emerge and flourish. All such ecological niches also have their *vulnerability*, their own buffalo, so to speak, that enable them to function as a coherent and vibrant whole. The carbon dioxide and other side effects of our ways of life are compromising the stability of our ecological niche. Whether or not we are able to develop the sensibilities for monitoring and navigating the waves of historical emergence in such a way that we can be actively receptive to what is gathering in our current historical moment, we can nevertheless be grateful at having been granted the chance to linger for a while in this contingent history of nature. Perhaps our disappearance will provide the opening for new and wondrous worlds.

[39] Peter Sloterdijk, *Bubbles: Spheres Volume 1: Microsphereology*, trans. Wieland Hoban (Los Angeles: Semiotext(e), 2011).