

# How Could We Drink up the Sea?

## From Technological Nihilism to Dwelling in the Anthropocene

Casey Rentmeester<sup>1</sup>

### Abstract:

Humans face wide-ranging and global challenges in the Anthropocene, the most prominent of which is anthropogenic climate change. One initial pivot towards sustainability, particularly in my home country of the United States, has been to rely heavily on technological innovation powered most obviously by engineers. Using the climate activist Greta Thunberg's speech at the 2018 United Nations Climate Change Conference as my inspiration, I try to show how some of the technology-based solutions only entrench what I call the "Bestance" mentality, that is, a fundamental stance or orientation toward the natural world in the Anthropocene wherein all entities show up as mere resources. Upon showing the various ways in which traditional ethical approaches and environmental philosophical approaches have proved unhelpful in navigating the challenges of the Anthropocene, I try to demonstrate how a Heideggerian ecophenomenological approach can help us not only understand how the world appears to many of us in the Anthropocene, but also what a more graceful way of being might look like in Heidegger's concept of "dwelling." Using specific examples of current technologies pervasively normalized in the United States, including hydraulic fracturing, horizontal drilling, desalination, and artificial nitrogen-based fertilization, I use Heidegger's philosophical concepts to show how the land, sea, and air can show up as *Bestand* in the Anthropocene, that is, mere materials on hand to be manipulated in order to serve human interests. I then utilize Heidegger's notion of dwelling as a useful concept to guide a more graceful way of living in which we respect the way in which things unfold on their own terms using examples similarly embedded in the land, sea and air.

**Keywords:** Bestand; Martin Heidegger; philosophy of technology

### Introduction

At the 2018 United Nations Climate Change Conference, the young climate activist Greta Thunberg – just 15 years of age at the time – implored world leaders to change their approach to climate change. In her speech, she states, "You only talk about moving forward with *the same bad ideas* that got us

---

<sup>1</sup> Casey Rentmeester is the Director of General Education and Associate Professor of Philosophy at Bellin College in Green Bay, Wisconsin, USA. He is the author of *Heidegger and the Environment* (2016), co-editor of *Heidegger and Music* (2021), and has authored numerous peer-reviewed articles and book chapters on various topics, including environmental philosophy, biomedical ethics, Continental philosophy, social and political philosophy, ancient Chinese philosophy, comparative philosophy, and philosophy of music. His most recent work is mainly geared toward questioning unchecked power in various fields, including politics, the global pharmaceutical industry, and online surveillance. He intentionally integrates acts of dwelling in an attempt to overcome technological nihilism on an everyday basis with his wife and three children in De Pere, Wisconsin.

into this mess.”<sup>2</sup> Climate change is the first significant civilizational breakdown that we have seen in the Anthropocene, that is, the current age in which human beings have altered the earth’s systems at a geological level. The root of those same bad ideas that power the Anthropocene is explained well by Richard Polt, who states, “the Anthropocene could never have gotten under way without modern technology, which in turn could not have arisen without modern natural philosophy.”<sup>3</sup> In this paper, I argue that Heidegger’s philosophy is useful not only in unpacking just what those same bad ideas look like, but also in showing us what a more graceful way of dwelling on the earth might be. Heidegger’s thought demonstrates an understanding of the relationship between the concepts of modern philosophy that had an impact on the rise of modern technology and the current ways in which we interpret beings due to that rise.<sup>4</sup> I begin by attempting to understand the concept of the Anthropocene and then look to the various traditional theories of ethics and environmental philosophy to see if they are capable of providing insight into how we got here and where to go from here. I then turn specifically to Heidegger to help us understand the relationship between how things show up to many of us in the Anthropocene, that is, as *Bestand* (mere resources), due to the rise of modern technology, using specific examples related to land, sea, and air in my home country of the United States. I end by using Heidegger’s later thought to show us what a more graceful way of dwelling upon the earth might look like by exploring current sustainable practices in the United States and beyond.

### The Anthropocene in context

In 2000, Paul Crutzen and Eugene Stoermer coined the term “Anthropocene,” that is, the age of humans, to refer to the central role that human beings have played ecologically in our current geological epoch, which they argue began in the latter part of the 18<sup>th</sup> century. In their commentary, they state, “Without major catastrophes like an enormous volcanic eruption, an unexpected epidemic, a large-scale nuclear war, an asteroid impact, a new ice age, or continued plundering of Earth’s resources by partially still primitive technology [...] [hu]mankind will remain a major geological force for many millennia, maybe millions of years, to come.”<sup>5</sup> In other words, *sans* a catastrophe that would fundamentally curb the human impact on the environment, humans will continue to alter the planet at a geological level. Importantly, Crutzen and Stoermer are no quack conspiracy theorists.

---

<sup>2</sup> THUNBERG, “2018 United Nations Climate Change Conference Speech.”

<sup>3</sup> POLT, “Eidetic Eros and the Liquidation of the Real,” p. 64.

<sup>4</sup> Cf. especially HEIDEGGER, *The Question Concerning Technology and Other Essays*, p. 115-154

<sup>5</sup> CRUTZEN and STOERMER, “The ‘Anthropocene,’” p. 18.

Crutzen, who died in 2021, won the Nobel Prize in Chemistry in 1995 for his work on the decomposition of the ozone due to human activity, a problem that was held at bay thanks to international cooperation that led to global regulatory measures. Stoermer, who died nearly a decade before Crutzen, was a respected professor of biology at the University of Michigan and published at the highest level of his field, making significant contributions to various subdisciplines of ecology. Scientists do not typically utilize the sort of language that is found in Crutzen and Stoermer's 2000 paper. Instead of the cautious, skeptical, and measured sort of speech that we have come to expect in scientific literature, Crutzen and Stoermer's language is pointed and assured, which should give us reason for alarm. At the end of their paper, they argue for the engineering community to "guide [hu]mankind towards global, sustainable, environmental management,"<sup>6</sup> and Crutzen explicitly advocated for climate engineering solutions, including stratospheric aerosol injections, to reverse some of the effects of anthropogenic global climate change, the first global challenge in the Anthropocene that threatens human civilizations as we have come to know them.<sup>7</sup>

Scientists and engineers have since been busy trying to find ways to curtail some of the planetary damage wrought by humans in the Anthropocene. Given the fact that some of the challenges posed to us in the Anthropocene are wide-ranging and global in scope, it is paramount that they are met with a wide array of potential solutions, and these solutions should not be relegated merely to the realms of science, technology, and engineering. Rather, as Richard Polt and Jon Wittrock have argued, "the humanities at large are challenged to respond in their own ways to the Anthropocene by drawing on the accumulated reserve of meanings and experiences to make sense of our new relationship to our planet."<sup>8</sup> Philosophy has always been at the heart of the humanities, and offers a deep and wide range of sources to aid us in not only understanding the human place in the natural world, but also perhaps providing glimpses of paths toward more sustainable *ways of being* in the Anthropocene that are less likely to be cultivated by the engineering community, given its technological and scientific lenses.

Traditionally, when one speaks of ways of being in a philosophical context, one naturally thinks of ethics, as it is the subdiscipline of philosophy that deals with how one ought to live. When it comes to philosophical engagements with climate change, ethicists have been the most active, and most have approached the issue from the lens of either deontology or utilitarianism, the two most

---

<sup>6</sup> Ibid., p. 18.

<sup>7</sup> CRUTZEN, "Albedo Enhancement by Stratospheric Sulfur Injections."

<sup>8</sup> POLT and WITTROCK, "Introduction," p. x.

prominent ethical theories in a contemporary context.<sup>9</sup> However, such approaches have proven unsatisfactory, given the scale and ubiquity of human impact in the Anthropocene. Deontological and utilitarian approaches are useful when dealing with ethical relationships between distinct entities, such as person-to-person relationships. For instance, if one is trying to determine whether to promise to borrow money from someone without the intention of paying it back, deontology can provide persuasive reasons as to why such a false promise would be unethical.<sup>10</sup> Or, if one is trying to determine whether to save a fellow creature from drowning, utilitarianism can provide good *prima facie* reasons as to why one should jump in without a second thought.<sup>11</sup> However, neither theory is helpful in getting us to question the nature of the relationships between human beings and the natural world as such since they were not built to ask, *much less answer*, such questions. Dale Jamieson has thus argued persuasively that “climate change is not a problem that conforms to our traditional models of individual morality.”<sup>12</sup> We can expand Jamieson’s analysis and apply it to the Anthropocene and the various issues that arise within it, which require deeper and more wide-ranging philosophical lenses than can be found in traditional ethical theory.

### Environmental philosophy

The most obvious avenue in the quest to understand the relationship between humans and the natural world on a philosophical level is to turn to environmental philosophy. While environmental philosophy was initially conceived as a version of traditional applied ethics – think, for instance, of Singer’s application of utilitarianism in *Animal Liberation*<sup>13</sup> – the field has recently become more variegated with the promulgation of various theories, including the land ethic, deep ecology, ecofeminism, and ecophenomenology. The first three of these theories all explicitly espouse anti-anthropocentric worldviews in their quest to knock human beings off their pedestal. Aldo Leopold, the founder of the land ethic, argues that human beings must be conceived of as “plain members and citizens of the land community”<sup>14</sup> if we are to chart a path toward a sustainable human-nature relationship. Arne Naess, the founder of the deep ecology movement, argues against anthropocentrism in favor of biospherical egalitarianism wherein “the equal right to live and blossom”

---

<sup>9</sup> Cf. e.g. GARDINER, CANEY, JAMIESON, and SHUE (eds.), *Climate Ethics*.

<sup>10</sup> Cf. KANT, *Groundwork for the Metaphysics of Morals*, p. 39.

<sup>11</sup> Cf. MILL, 1962, “Utilitarianism,” p. 270.

<sup>12</sup> JAMIESON, *Reason in a Dark Time*, p. 8.

<sup>13</sup> SINGER, *Animal Liberation*.

<sup>14</sup> LEOPOLD, *A Sand County Almanac and Sketches Here and There*, p. 204.

is bestowed upon all biospherical entities.<sup>15</sup> Val Plumwood, a founder of ecofeminism, argues that we need to overcome the idea that humans are “exclusive of and discontinuous with ... non-human nature.”<sup>16</sup> Other versions of environmental philosophy have been more anthropocentric in their approaches, acknowledging that humans are somehow “different” than other natural beings or “special” in some way. In my estimation, the Anthropocene shows us that humans are indeed different than other living beings, as there has been no other single species that has wrought such destruction on the natural world in such a short period of time.<sup>17</sup> To me, the Anthropocene is evidence that the anti-anthropocentrists need to change their narratives: we must acknowledge that human beings are similar to other living beings biologically, *but are different nonetheless*, and doing so requires an anthropocentric approach.

Ecophenomenology is a fitting platform in the Anthropocene because it not only provides an anthropocentric perspective, but it tells us what it *is* about human beings that allows them to wreak such havoc on the planet. Key figures in the phenomenological tradition, including Edmund Husserl, Martin Heidegger, Maurice Merleau-Ponty, and Emmanuel Levinas, have different answers as to the reason for humanity’s uniqueness, and all four of their philosophies have been utilized as philosophical scaffoldings in ecophenomenological frameworks.<sup>18</sup> Heidegger’s thought has been appropriated in various ways in the realm of environmental philosophy, including Michael Zimmerman’s hybrid model of Heideggerian philosophy and deep ecology,<sup>19</sup> Bruce Foltz’s combination of Heideggerian ontology with environmental ethics,<sup>20</sup> Susanne Claxton’s grouping of Heideggerian ecophenomenology with ecofeminism,<sup>21</sup> and others.<sup>22</sup> I have argued that Heidegger’s philosophy is especially useful in understanding the Anthropocene, given his understanding of human existence as being capable of encountering an entity *as* an entity, which thereby allows us to conceive of an entity *as something else*, and then manipulate it accordingly so it is more amenable to human

---

<sup>15</sup> NAESS, “The Shallow and the Deep, Long-range Ecology Movement: A Summary,” p. 96. Warwick FOX, though, espouses an anthropocentric version of deep ecology (“Deep Ecology: A New Philosophy for Our Time.”).

<sup>16</sup> PLUMWOOD, *Feminism and the Mastery of Nature*, 6. Since Plumwood’s founding works, there have certainly been versions of ecofeminism that are appropriately labeled as anthropocentric. Cf. e.g. WARREN (ed.), *Ecological Feminist Philosophies*.

<sup>17</sup> As Gregory FRIED notes, “Humanity is the [main driver of global environmental change] because we push this change to the environment forward relentlessly, and we do so not at the local, or the regional, level but at the global level. No other species does or has done that, at least since the earliest microorganisms began the process of altering the gas content of the earth’s atmosphere” (“Odysseus on the Beach,” p. 88).

<sup>18</sup> BROWN and TOADVINE, *Eco-Phenomenology*.

<sup>19</sup> ZIMMERMAN, “Toward a Heideggerian *Ethos* for Radical Environmentalism”; “Implications of Heidegger’s Thought for Deep Ecology.”

<sup>20</sup> FOLTZ, *Inhabiting the Earth*.

<sup>21</sup> CLAXTON, *Heidegger’s Gods*.

<sup>22</sup> Cf. e.g. IRWIN, *Heidegger, Politics and Climate Change*; STOREY, *Naturalizing Heidegger*.

interests.<sup>23</sup> In the Anthropocene, entities are all-too-often taken as *Bestand*, that is, as mere materials on hand to be manipulated or consumed. Indeed, this understanding of reality is pervasive. Sofya Gevorkyan and Carlos Segovia put the point the following way: “modern technology frames reality as a ‘standing reserve’ (*Bestand*) in which all things are placed ‘at the ready’ to be appropriated, investigated, classified, experimented with, manipulated, modified, exchanged, destroyed, and replaced by something else when needed.”<sup>24</sup> According to Hubert Dreyfus, we can understand this pervasively normalized framing of reality as *Bestand* to be a version of “technological nihilism” wherein “even the marginal practices [are] mobilized as resources.”<sup>25</sup> Heidegger understood such a world as an “unworld” in that there is an overarching lack of a sense as to what is meaningful since it entails “the circularity of consumption for the sake of consumption.”<sup>26</sup> In an attempt to overcome technological nihilism, Heidegger’s philosophy provides an avenue from which we can craft a more meaningful way to dwell on this earth in which we appreciate the proper unfolding of things and therefore move beyond our current ontological epoch in which entities are relegated as *Bestand*.

### The “Bestance” toward land, sea, and air

Before we can begin to think about what a more meaningful way of dwelling on earth might look like, we need to get clear on how entities show up to many of us in the Anthropocene. Heidegger sums up this perspective succinctly in 1950: “Man has already begun to overwhelm the entire earth and its atmosphere ... This same defiant man is utterly at a loss simply to say what *is*; to say *what* this *is* – that a thing *is*”.<sup>27</sup> In order to begin to contemplate that question, Heidegger points to a basic distinction that held at the beginning of Western civilization in ancient Greece. When the ancient Greeks asked the question, “What is?” they answered with φύσις [*phusis*], according to Heidegger: “Φύσις [*phusis*] means sky and earth, plants and animals, and also in a certain way men. [...] Φύσει ὄντα [*phusei onta*] is that which produces itself by arising out of itself; τέχνη ὄντα [*techne onta*] is produced by human planning and production.”<sup>28</sup> Generally speaking, the Greeks were able to distinguish natural entities that arise and unfold from out of themselves from created entities that were designed by human beings. This distinction, however, no longer holds for many of us living today. According to Heidegger, “[what is] natural no longer possesses any immediate relation to φύσις

---

<sup>23</sup> RENTMEESTER, *Heidegger and the Environment*.

<sup>24</sup> GEVORKYAN and SEGOVIA, “Earth and World(s),” p. 71-72.

<sup>25</sup> DREYFUS, “Nihilism, Art, Technology, and Politics,” p. 310.

<sup>26</sup> HEIDEGGER, *The End of Philosophy*, p. 107.

<sup>27</sup> HEIDEGGER, *Early Greek Thinking*, p. 57.

<sup>28</sup> *Ibid.*, p. 15.

[*phusis*].”<sup>29</sup> Instead, we have come to a point in which the trail of the human serpent is literally over everything, to paraphrase a famous quote by William James.<sup>30</sup> Heidegger puts the point the following way: “Man has become the relational center of that which is as such.”<sup>31</sup> For Heidegger, modern philosophy, which he argues began with René Descartes, has led to a situation in which all entities are objectified in time and space if they are to count at all as in being, and this Cartesian circumnavigation of reality powered the age of modern technology in which humans have gained an unprecedented mastery of the earth. In the Anthropocene, all so-called natural entities – whether situated in land, sea, or air – have been affected deeply by human activity, perhaps not in the technical sense of human design that the ancient Greeks spoke about as τέχνη ὄντα [*techne onta*] (*yet*),<sup>32</sup> but affected nonetheless since anthropogenic climate change has altered the entire planet.<sup>33</sup> Before we can think through what a more graceful way of dwelling upon the earth might look like, we need to understand the ubiquity of human interference on the planet, a ubiquity that is, by the way, oftentimes exacerbated by technological solutions to climate change in the Anthropocene, at least in my home country of the United States. Heidegger warned of what he interpreted as “the hopeless frenzy of unchained technology” in the United States and the threat of “the farthest corner of the globe [being] conquered technologically and ... exploited economically<sup>34</sup> if the world were to adopt the “American” model. The following examples of technologies embedded in the United States demonstrate what a *Bestand*-oriented attitude toward land, sea, and air entails, which I will juxtapose with examples of practices that exemplify dwelling in the next section.

Ecology tells us that “land ... is not merely soil; it is a fountain of energy flowing through a circuit of soils, plants, and animals.”<sup>35</sup> In the Anthropocene, though, land “reveals itself as a coal mining district,”<sup>36</sup> that is, as mere material on hand to be manipulated. Oil, of course, overtook coal as the preferred fossil fuel used to power the 20<sup>th</sup> century, given its higher energy return on investment compared to coal, but its efficacy was in jeopardy at the end of that century when some geologists—most notably M. King Hubbert—sounded the alarm that the easily accessible oil reserves were

---

<sup>29</sup> HEIDEGGER, *Contributions to Philosophy*, p. 105.

<sup>30</sup> Not simply, that is, in William James’s pragmatic sense in which we interpret everything from a human lens. Cf. JAMES, *Pragmatism*, p. 53.

<sup>31</sup> HEIDEGGER, *The Question Concerning Technology and Other Essays*, p. 128.

<sup>32</sup> Although genetically modified organisms are already normalized in many parts of the world, and CRISPR-Cas9 presents a wealth of opportunity for the human design of nature, including human nature.

<sup>33</sup> This is why Bill MCKIBBEN argues that we are *at the end of nature*, as the title of his 1989 essay has it.

<sup>34</sup> HEIDEGGER, *Introduction to Metaphysics*, p. 40.

<sup>35</sup> LEOPOLD, *A Sand County Almanac and Sketches Here and There*, p. 216.

<sup>36</sup> HEIDEGGER, *The Question Concerning Technology and Other Essays*, p. 14.

quickly becoming more difficult to access by traditional methods of extraction.<sup>37</sup> The oil fields that permeate the Permian Basin, for instance, which straddles western Texas and southeastern New Mexico in the United States, had been drying up since the 1970s, and it appeared that the so-called “age of oil” that marked the twentieth century was at its end.<sup>38</sup> Given the clear link between fossil fuel emissions and anthropogenic climate change, this could have been seen as a good reason to pivot towards renewable sources of energy. The actual response, however, was not to accept the finitude of fossil fuels but rather to find alternative ways of accessing them. Hydraulic fracturing, more commonly known as “fracking,” and horizontal drilling techniques, also called “directional drilling,” have been heavily employed since the mid-2010s in the Permian Basin and other parts of the U.S. In fracking, water is aimed at subterranean shale rock formations at high air pressure in order to break them up, thereby providing access to otherwise inaccessible fossil fuels. This practice, coupled with horizontal drilling, which allows extractors access to targets that cannot be reached with a vertical well, such as those beneath cities, have ensured that the age of oil has continued well into the first decades of the 21<sup>st</sup> century. The Permian Basin, once thought to be all but dried up in terms of oil reserves, is now booming more than ever.<sup>39</sup> These technological innovations not only exacerbate the already alarming problem of climate change (not to mention that they also pose dangers in terms of poisoned groundwater to local residents), but also demonstrate a double down on the *Bestand*-oriented mentality, which we can call “Bestance,” that is, a fundamental stance or orientation toward the natural world in the Anthropocene wherein all entities show up as mere resources.

Just as the land tends to show up as *Bestand*, so does the sea, which can be seen most obviously in desalination technologies that turn saltwater into freshwater for human use. The Carlsbad Desalination Plant, for instance, which is the largest desalination plant in the Western Hemisphere, extracts millions of gallons of saltwater from the Pacific Ocean daily and turns it into freshwater for residents of San Diego County in California, U.S.A. Anthropogenic climate change has left an indelible mark on San Diego County, which has experienced record temperatures, drought, and wildfires in the past decade, much like other areas of California and the western United States. This destruction has proven to tax the resource base on several levels, but particularly with regard to water. The response was not to rethink whether or not the county’s depleted resource base can continue to support what has come to be the fifth most populous county in the United States, but rather to turn towards the ocean and technologically manipulate the situation to sustain the status quo. Even the

---

<sup>37</sup> Cf. DEFFEYES, *When Oil Peaked*.

<sup>38</sup> Cf. MAUGERI, *The Age of Oil*.

<sup>39</sup> DANCY, “From the Drake Well to the Santa Rita #1.”



ocean is not exempt from the concerns that Heidegger expressed in the late 1940s of the Rhine River, namely, that it “appears as something at our command,”<sup>40</sup> yet another consequence of Bestance. Nietzsche’s famous question in the parable of the mad man, “How could we drink up the sea?”<sup>41</sup> has proven to be not only a metaphor for the annihilation of the meaningful horizon since the death of God but a question worth asking if taken literally. The literal drinking of the sea through desalination has environmentally detrimental byproducts, the most notable of which is brine, a highly saline mishmash of ingredients that includes heavy metals, pharmaceutical drug ingredients that have made their way to the ocean via pollution, and other contaminants that are detrimental to biological life.<sup>42</sup> What to do with the brine, you ask? It gets dumped back into the ocean, of course, and some have argued that “to minimize environmental impacts [brine] discharge should target waters where a long history of anthropogenic activity has already compromised the natural setting.”<sup>43</sup> In other words, in the United States at least, we are at a point where we are intentionally degrading already degraded areas of the ocean since we don’t have better alternatives, demonstrating that the sea has obviously become *Bestand*: a mere resource to be continually manipulated.

Finally, to air. The air in our atmosphere is made up mostly of nitrogen, but the increases in carbon dioxide that result from our fossil fuel use that has powered the Anthropocene have led to a slight change in the elemental composition of our earth’s atmosphere. The increase in carbon dioxide translates into less nitrogen actually making its way into the earth’s soil, which is concerning given that nitrogen plays a crucial role in the development of plant life. This, coupled with the fact that the warmer temperatures that accompany climate change cause longer growing seasons for plants, means plants are striving to grow for longer periods of time with less nitrogen, one of the very nutrients essential for growth.<sup>44</sup> Similar to the responses that we have seen in land and water, humans have found ways to lean on technology to address this issue. Already in the 1940s, Heidegger spoke of air being “set upon to yield nitrogen”<sup>45</sup> in which he was likely referring to the Haber-Bosch process invented in his home country of Germany wherein nitrogen is extracted from the air in order to distill it and thereby create what is referred to as “artificial nitrogen.” This artificial nitrogen is then added

---

<sup>40</sup> HEIDEGGER, *The Question Concerning Technology and Other Essays*, p. 16.

<sup>41</sup> NIETZSCHE, *The Gay Science*, p. 181.

<sup>42</sup> SOLLEY, GRONOW, TAIT, BATES, and BUCHANAN, “Managing the Reverse Osmosis Concentrate from the Western Corridor Recycled Water Scheme.”

<sup>43</sup> LYKKEBO PETERSON, HECK, REGUERO, POTTS, HOVAGIMIAN, and PAYTAN, “Biological and Physical Effects of Brine Discharge from the Carlsbad Desalination Plant and Implications for Future Desalination Plant Constructions,” p. 208.

<sup>44</sup> CRAINE, ELMORE, WANG, *et al.*, “Isotopic Evidence for Oligotrophication of Terrestrial Ecosystems.”

<sup>45</sup> HEIDEGGER, *The Question Concerning Technology and Other Essays*, p. 15.

to fertilizers, which are then added to the soil to restore it to proper nitrogen levels, thereby ensuring that plants have the appropriate nutritive conditions to grow. Right around the same time Heidegger was writing about artificial nitrogen, farmers in Iowa, the state that makes up the largest portion of the “Corn Belt” in the United States, recognized depleted nitrogen levels in the soil, which thereby threatened crop production. The response, perfectly in step with Bestance, was to turn to artificial nitrogen. In fact, Iowa farmers today have, on average, increased their use of nitrogen fertilizer at a rate of 34 times the level from the 1940s.<sup>46</sup> The excess artificial nitrogen that has become nearly ubiquitously utilized in the Corn Belt washes down the Mississippi River and ends up in the Gulf of Mexico, which thereby alters the ecosystem to such an extent as to create a hypoxic zone or “dead zone,” that is, an area that was formally teeming with life but is now a biological desert, so expansive that it was roughly the size of Massachusetts in 2019.<sup>47</sup>

These are only a small fraction of the environmental dangers that confront us in the Anthropocene. The current responses situated in Bestance in the United States have proven to exacerbate the degradation of our ecosystems. There is, however, a more graceful way in which we can relate to the environment, and Heidegger’s later philosophy provides a key concept to help us begin to pivot toward that path: the concept of dwelling. For the remainder of this paper, I’ll attempt to unpack Heidegger’s concept and provide some examples of more graceful ways of being in the Anthropocene that are in accordance with dwelling.

### Dwelling gracefully in the Anthropocene

Heidegger argues that the proper way of being for human beings is to dwell on the earth. He states, “The way in which you are and I am, the manner in which we humans *are* on the earth, is [...] dwelling. To be a human being means to be on earth as a mortal. It means to dwell.”<sup>48</sup> Remmon Barbarza provides an excellent commentary on what Heidegger means by dwelling: “To dwell poetically is to live in a way that does not encroach on the bringing-forth of φύσις [*phusis*] but that takes part in this very bringing-forth.”<sup>49</sup> In other words, dwelling entails being responsive to the ways in which entities unfold *as they are* without intending to manipulate them as mere material on hand to serve human interests. Heidegger defines the ancient Greek concept of φύσις [*phusis*] as “the

---

<sup>46</sup> CAO, LU, and YU, “Agricultural Nitrogen Fertilizer Uses in the Continental U.S. during 1850-2015.”

<sup>47</sup> RABALAIS and TURNER, “Gulf of Mexico Hypoxia.”

<sup>48</sup> HEIDEGGER, *Basic Writings*, p. 355.

<sup>49</sup> BARBARZA, “There Where Nothing Happens,” p. 193.

emerging and rising in itself and in all things.”<sup>50</sup> Human actions can either facilitate φύσις [*phusis*] and respect the natural unfolding of, for instance, “the emergence, the blossoming, of a rose”<sup>51</sup> and thus dwell, or stifle it through the manipulative and self-serving tendencies aligned with Bestance. The clearest example – to my mind, at least – of the difference between dwelling (and thereby respecting φύσις [*phusis*]) and Bestance (which does not respect φύσις [*phusis*]) in Heidegger’s corpus comes in his examples of woodworking and the lumber industry. Heidegger states, “if he is to become a true cabinetmaker, he makes himself answer and respond above all to the different kinds of wood and to the shapes slumbering within the wood – to wood as it enters into man’s dwelling with all the hidden riches of its nature.”<sup>52</sup> A master cabinetmaker responds to the unique grains of the wood and helps to bring them forth through the craft of woodworking. We can contrast this with Heidegger’s example of “the forester who, in the wood, measures the felled timber [...] [and] is today commanded by profit-making in the lumber industry.”<sup>53</sup> Compelled by the overarching priorities of efficiency and productivity and, above all, *profit*, the forester in the modern-day lumber industry can’t help but take on a Bestance mentality. While the master cabinetmaker is able to dwell gracefully by heeding the natural unfolding of the wood, thus not treating it as a mere resource, the forester in the modern-day lumber industry regards the wood as a mere resource to be manipulated. The following three examples based similarly in land, water, and air give us a sense as to what an intentional approach to Heideggerian dwelling might look like in the Anthropocene that provide a juxtaposition to the three examples of Bestance offered above.

We begin with land. Much of the land in the aforementioned Corn Belt has been consolidated into what are called “commodity farms” in which the emphasis is on growing relatively nonperishable, easily storable, and transportable crops. Corn is a perfect example of such a crop, and has thus made its way into just about every processed food we eat.<sup>54</sup> There are, however, some organic farmers – even in the United States, which Heidegger regarded as the land of the “measureless so-on-and-so-forth of the ever-identical and the indifferent”<sup>55</sup> – who are fighting the ubiquity of the commodity farm paradigm. The Down at the Farms program, which is showcased in the 2016 film *Sustainable*, is an organic farming coalition in Central Illinois that emphasizes growing biodiverse crop bases that are then served in Chicago restaurants.<sup>56</sup> The program explicitly turns away from the

---

<sup>50</sup> HEIDEGGER, *Basic Writings*, p. 168.

<sup>51</sup> HEIDEGGER, *Introduction to Metaphysics*, p. 15.

<sup>52</sup> HEIDEGGER, *What is Called Thinking?*, p. 14.

<sup>53</sup> HEIDEGGER, *The Question Concerning Technology and Other Essays*, p. 18.

<sup>54</sup> WARMAN, *Corn & Capitalism*.

<sup>55</sup> HEIDEGGER, *Introduction to Metaphysics*, p. 48.

<sup>56</sup> WECHSLER and SPEICHER, *Sustainable*.

industrialized mentality that has become pervasive in the Corn Belt and instead encourages farmers to be deeply cognizant of the soils of their fields in order to grow a multitude of crops in a way that is respectful of φύσις [*phusis*] by practicing organic farming, that is, farming that does not rely upon artificial nitrogen or synthetic pesticides. The foods are then thoughtfully integrated into dishes by some of Chicago's best chefs and marketed to meet the demands of the local, farm-to-table movement that has gained traction in recent years.<sup>57</sup> As opposed to agriculture becoming “the mechanized food industry,” the Down at the Farms program “takes care of” the land as a resource “to maintain.”<sup>58</sup> Moreover, the Down on the Farms program is explicitly fighting technological nihilism as those involved are not only passing on traditions that span generations but also building a sense of community based on personal relationships rather than profit. As Marty Travis – a seventh generation farmer and the founder of the Down on the Farms program – notes, “This whole idea of doing something to pass on, to pay it forward, to make the community a better place, that’s what all this is about.”<sup>59</sup>

Speaking of farming, Trish Glazebrook and Matt Story have argued that we can find a much more respectful and graceful way of utilizing water as a resource by looking closely at the farming practices of indigenous peoples – and particularly of women – in the global South, which have been practiced long before the industrialized model was applied to agriculture. Such practices offer an alternative understanding of water than what we have seen with desalination technologies and hydraulic fracturing in the United States. They state, “Because it is unpaid and unsold, and because it does not reckon, assume or imply a mastery of the earth, women’s subsistence agriculture is irreducible to the technoscientific logic of modernity. [...] It is an alternative dwelling.”<sup>60</sup> As opposed to the Corn Belt approach we examined earlier wherein corn is harvested and technologically inserted into processed foods to be available on the market, subsistence farming is done explicitly at a small-scale basis wherein the consumption of the crops is for the farmer and her family. In women’s subsistence agriculture, excess rainwater is collected and used sparingly to ensure the proper growth of crops. In such a context, as Glazebrook notes, “water is not an exploitable resource ... but the origin and sustaining of life.”<sup>61</sup> The water, of course, still shows up as a resource in women’s subsistence farming, but not as a *mere* resource as it does in desalination and hydraulic fracturing. Thus, similarly to what we saw with the Down at the Farms program, women’s subsistence agriculture

---

<sup>57</sup> HOLTHAUS, *From the Farm to the Table*.

<sup>58</sup> HEIDEGGER, *The Question Concerning Technology and Other Essays*, p. 14-15.

<sup>59</sup> Quoted in WECHSLER and SPEICHER, *Sustainable*.

<sup>60</sup> GLAZEBROOK and STORY, “Heidegger and International Development,” p. 133.

<sup>61</sup> GLAZEBROOK, “Water and Oil,” p. 74.

in the global South provides an example of dwelling in that it is respectful and responsive to φύσις [*phusis*]. Moreover, given that “women overwhelmingly for the most part are not market participants but subsistence farmers growing directly to feed their family,”<sup>62</sup> this traditional practice avoids the circularity of consumption for the sake of consumption noted by Heidegger and discussed above as technological nihilism by prioritizing the importance of providing for the family while simultaneously offering “a different relation to nature than the modern technoscientific reduction of nature, a different destining of being that is not so environmentally [...] destructive.”<sup>63</sup>

Again, we end with air. We have discussed the nitrogen in air that’s been extracted and converted into material to support fertilizer and we have also spoken of air that has been combined with water at high pressure levels in hydraulic fracturing. In both of these examples, the air shows up as *Bestand*. Róisín Lally has argued that our understanding of air as *Bestand* can also be seen in our use of modern day wind turbines that harvest the wind’s energy: “harvested wind energy requires technology that itself uses fossil fuels, is excessively expensive, is disproportionately big, and is very quickly and effectively reducing land surface.”<sup>64</sup> Thus, even our so-called renewable energies are not truly renewable and demonstrate the *Bestance* mentality. There are, however, more graceful approaches. For instance, there is a resurgence in rebuilding and restoring old windmills in the Netherlands in which the energy from the wind is not so much stockpiled on hand, but rather cultivated to grind grains in the slow, traditional method that was practiced in the country for hundreds of years, most prominently prior to the Industrial Revolution. Heidegger himself saw a distinction in old windmills that “are left entirely to the wind’s blowing” and those that “unlock energy from the air currents in order to store it.”<sup>65</sup> Michael Zimmerman has argued that Heidegger was “clearly naïve in his use of the windmill as an instance of pre-technological equipment,”<sup>66</sup> but I think there is something to be said about the difference between modern-day wind turbines that Lally has shown to treat the wind as *Bestand* and old windmills that allow the wind *to be* wind. The old windmills are accurately described as “white and tall and slender as pencils, their three slim blades turning lazily in the North Sea breeze,”<sup>67</sup> thereby enabling a slow grinding process that makes for a better and more traditional tasting flour to produce traditional baked goods such as poffertjes, a Dutch mini pancake often served at festivals or as sacramental hosts during the Catholic communion ceremony.

---

<sup>62</sup> OPUKU and GLAZEBROOK, “Gender, Agriculture, and Climate Policy in Ghana,” p. 380.

<sup>63</sup> GLAZEBROOK and STORY, “Heidegger and International Development,” p. 137).

<sup>64</sup> LALLY, “The Ontogenesis of Wind Turbines and the Question of Sustainability,” p. 87.

<sup>65</sup> HEIDEGGER, *The Question Concerning Technology and Other Essays*, p. 14.

<sup>66</sup> ZIMMERMAN, *Heidegger’s Confrontation with Modernity*, p. 216.

<sup>67</sup> TAGLIABUE, “Rebuilding a Dutch Tradition, One Windmill at a Time.”

Recultivating such traditions wherein the wind – and the grains – do not show up merely as *Bestand* but are rather *allowed to be what they are* is exactly the sort of thing Heidegger has in mind – in my opinion – with his concept of dwelling. Moreover, such traditions intentionally turn away from “the loss of rootedness” to tradition that many persons have experienced, which Heidegger argued was “the spirit of the age into which all of us were born,”<sup>68</sup> thus overcoming technological nihilism.

On the whole, while the Bestance mentality involves what Polt refers to as “a liquidation of the real” in which “resources become available for transformation into liquid assets [such that] their distinctive, resistant characteristics are eliminated, [...] becoming nothing but streams of utility and wealth,”<sup>69</sup> “the person who learns to dwell takes on an appropriate relationship with the places and the things that surround oneself”<sup>70</sup> “by being mindful of their origins and proper unfolding.”<sup>71</sup> The liquidation can be seen in extracting nitrogen from the air to fertilize the land or in targeting highly-pressured water towards rock shales in fracking. These techniques do not respect the air *as* air or the land *as* land in their integrity but rather reveal the world as *Bestand*, a “standing reserve” of mere resources. Alternatively, the *craft* and *cultivation* involved in the Down on the Farms coalition, women’s subsistence farming in the global South, or traditional baking practices like Dutch poffertjes allow the land, water, and air *to be what they, indeed, are*, thereby granting “a possibility of dwelling in the world in a totally different way, [which] promise[s] us a new ground and foundation upon which we can stand and endure in the world of technology without being imperiled by it.”<sup>72</sup>

### Conclusion

The wide-ranging challenges we face in the Anthropocene have largely been met with technological approaches that stem from the “same bad ideas,” to use Thunberg’s phrase, that caused them in the first place in my home country of the United States. I have tried to show how traditional ethical approaches, as well as mainstream approaches in environmental philosophy, have lacked the tools to ask the right questions about how we have gotten here, namely, *questions that question* the human relationships to nature as such. I have then chronicled some of the ways in which we have responded to the challenges in the Anthropocene through those same bad ideas, including hydraulic fracturing, horizontal drilling, desalination technologies, and artificial nitrogen-based fertilization, all processes

---

<sup>68</sup> HEIDEGGER, *Discourse on Thinking*, p. 49.

<sup>69</sup> POLT, “Eidetic Eros and the Liquidation of the Real,” p. 63.

<sup>70</sup> BURGESS and RENTMEESTER, “Knowing Thyself in a Contemporary Context,” p. 42.

<sup>71</sup> RENTMEESTER, *Heidegger and the Environment*. 76.

<sup>72</sup> HEIDEGGER, *Discourse on Thinking*, p. 55.

in which the natural world shows up as *Bestand*. I have then provided alternative ways in which we can dwell more gracefully on the earth by pointing to organic farming coalitions in the midwestern United States, women's subsistence farming in the global South, and the restoration of old windmills in the Netherlands to support traditional baking techniques in order to maintain cultural traditions. Heidegger once famously stated that "only a god can save us" when asked if humans can turn around the course of the fate of the world,<sup>73</sup> a fate I have framed as technological nihilism. If we can understand "god" in the secular sense as "shared examples of greatness that focus public concerns and elicit social commitment,"<sup>74</sup> perhaps practices that align with Heidegger's notion of dwelling are perfect candidates for the god we seek in the Anthropocene. If so, it is on us to cultivate them and thus "prepare a readiness for the appearance of [such] a god."<sup>75</sup>

### WORKS CITED:

- BARBARZA, Remmon E. "There Where Nothing Happens." In *Heidegger and the Earth: Essays in Environmental Philosophy*. Edited by Ladelle McWhorter and Gail Stenstad. Second edition. Toronto, Buffalo, and London: University of Toronto Press, 2009, p. 186-200.
- BROWN, Charles S., and Ted TOADVINE (eds.). *Eco-Phenomenology: Back to the Earth Itself*. Albany: State University of New York Press, 2003.
- BURGESS, Steven, and Casey RENTMEESTER. "Knowing Thyself in a Contemporary Context: A Fresh Look at Heideggerian Authenticity." In *Horizons of Authenticity in Phenomenology, Existentialism, and Moral Psychology: Essays in Honor of Charles Guignon*. Edited by Hans Pedersen and Megan Altman. London and New York: Springer, 2015, p. 31-43.
- CAO, Peiyu, Chaoqun LU, and Zhen YU. "Agricultural Nitrogen Fertilizer Uses in the Continental U.S. during 1850-2015: A Set of Gridded Time-Series Data." *Earth System Science data*, v. 10 (2018), p. 969-984. Online: <https://doi.org/10.5194/essd-10-969-2018>. Accessed: 08/26/2021.
- CLAXTON, Susanne. *Heidegger's Gods: An Ecofeminist Perspective*. London and New York: Rowman & Littlefield International, 2017.
- CRAINE, J. M., A. J. ELMORE, L. WANG, et. al. "Isotopic Evidence for Oligotrophication of Terrestrial Ecosystems." *Nature, Ecology & Evolution*, v. 2 (2018), p. 1735-1744. Online: <https://www.nature.com/articles/s41559-018-0694-0>. Accessed: 08/26/2021.
- CRUTZEN, Paul J. "Albedo Enhancement by Stratospheric Sulfur Injections: A Contribution to Resolve a Policy Dilemma?," *Climatic Change*, v. 77, n. 211 (2006), p. 211-219.
- CRUTZEN, Paul J. and Eugene F. STOERMER. "The 'Anthropocene.'" *The International Geosphere-Biosphere Programme (IGBP) Newsletter*, v. 41 (2000), p. 17-18.

---

<sup>73</sup> HEIDEGGER, "Only a God Can Save Us."

<sup>74</sup> DREYFUS, "Nihilism, Art, Technology, and Politics," p. 292.

<sup>75</sup> HEIDEGGER, "Only a God Can Save Us," p. 57.

- DANCY, Joseph R. "From the Drake Well to the Santa Rita #1: The History of the U.S. Permian Basin: A Miracle of Technological Innovation." *Oil and Gas, Natural Resources, and Energy Journal*, v. 3, n. 5 (2018), p. 1183-1213.
- DEFNEY, Kenneth S. *When Oil Peaked*. New York: Hill and Wang, 2010.
- DREYFUS, Hubert L. "Nihilism, Art, Technology, and Politics." In *The Cambridge Companion to Heidegger*. Edited by Charles B. Guignon. Cambridge and New York: Cambridge University Press, 1993, p. 289-316.
- FOX, Warwick. "Deep Ecology: A New Philosophy for Our Time." *The Ecologist*, v. 14 (1948), p. 194-204.
- FRIED, Gregory. "Odysseus on the Beach: Humanity between the Anthropocene and the Hubriscene." In *The Task of Philosophy in the Anthropocene: Axial Echoes in Global Space*. Edited by Richard Polt and Jon Wittrock. London: Rowman & Littlefield International, 2018, p. 85-105.
- FOLTZ, Bruce. *Inhabiting the Earth: Heidegger, Environmental Ethics, and the Metaphysics of Nature*. Amherst (NY): Humanity Books, 1995.
- GARDINER, Stephen M., CANEY, Simon, JAMIESON, Dale, and SHUE, Henry (eds.). *Climate Ethics: Essential Readings*. Oxford and New York: Oxford University Press, 2010.
- GEVORKYAN, Sofya, and Carlos A. SEGOVIA. "Earth and World(s): From Heidegger's Fourfold to Contemporary Anthropology." *Open Philosophy*, v. 4 (2021), p. 58-82.
- GLAZEBROOK, Trish. "Water and Oil: Global Struggles in Sustainability." In *Sustainability in the Anthropocene: Philosophical Essays on Renewable Technologies*. Edited by Róisín Lally. Lanham (MD): Lexington Books, 2019, p. 65-82.
- GLAZEBROOK, Trish, and Matt STORY. "Heidegger and International Development." In *Heidegger in the Twenty-First Century*. Edited by Tziovannis Georgakis and Paul J. Ennis. Dordrecht: Springer Science+Business Media, 2015, p. 121-140.
- HEIDEGGER, Martin. *Discourse on Thinking*. Translated by John M. Anderson and E. Hans Freund. New York: Harper & Row, 1966.
- HEIDEGGER, Martin. *What is Called Thinking?* Translated by Fred D. Wieck and J. Glenn Gray. New York: Harper & Row, 1968.
- HEIDEGGER, Martin. *The End of Philosophy*. Translated by Joan Stambaugh. New York: Harper & Row, 1973.
- HEIDEGGER, Martin. *Early Greek Thinking: The Dawn of Western Philosophy*. Translated by David Farrell Krell and Frank A. Capuzzi. New York: Harper & Row, 1975.
- HEIDEGGER, Martin. *The Question Concerning Technology and Other Essays*. Translated by William Lovitt. New York: Harper & Row, 1977.
- HEIDEGGER, Martin. *Basic Writings: Revised and Expanded Edition*. Edited by David Farrell Krell. New York: HarperCollins, 1993.
- HEIDEGGER, Martin. *Introduction to Metaphysics*. Translated by Gregory Fried and Richard Polt. New Haven and London: Yale University Press, 2000.
- HEIDEGGER, Martin. *Contributions to Philosophy: Of the Event*. Translated by Richard Rojcewicz and Daniela Vallega-Neu. Bloomington and Indianapolis: Indiana University Press, 2012.



- HEIDEGGER, Martin. "Only a God Can Save Us." Translated William J. Richardson. In *Heidegger: The Man and the Thinker*. Edited by Thomas Sheehan. New York: Routledge, 2017, p. 45-68.
- HOLTHAUS, Gary. *From the Farm to the Table: What All Americans Need to Know about Agriculture*. Lexington: University of Kentucky Press, 2014.
- IRWIN, Ruth. *Heidegger, Politics and Climate Change: Risking It All*. London and New York: Continuum, 2008.
- JAMES, William. *Pragmatism*. New York: Meridan Books, 1955.
- JAMIESON, Dale. *Reason in a Dark Time: Why the Struggle Against Climate Change Failed – And What it Means For Our Future*. Oxford and New York: Oxford University Press, 2014.
- LALLY, Róisín. "The Ontogenesis of Wind Turbines and the Question of Sustainability." In *Sustainability in the Anthropocene: Philosophical Essays on Renewable Technologies*. Edited by Róisín Lally. Lanham (MD): Lexington Books, 2019, p. 83-98.
- LEOPOLD, Aldo. *A Sand County Almanac and Sketches Here and There*. Oxford: Oxford University Press, 1949.
- LYKKEBO PETERSEN, Karen, Nadine HECK, Borja G. REGUERO, Donald POTTS, Armen HAVAGIMIAN, and Adina PAYTAN. "Biological and Physical Effects of Brine Discharge from the Carlsbad Desalination Plant and Implications for Future Desalination Plant Constructions." *Water*, v. 11, n. 2 (2019), #208. Online: <https://www.mdpi.com/2073-4441/11/2/208>. Accessed: 08/26/2021.
- KANT, Immanuel. *Groundwork for the Metaphysics of Morals*. Edited and translated by Allen W. Wood. New Haven and London: Yale University Press, 2002.
- MAUGERI, Leonardo. *The Age of Oil: The Mythology, History, and Future of the World's Most Controversial Resource*. Westport (CT): Praeger, 2006.
- MCKIBBEN, Bill. *The End of Nature*. New York: Random House, 1989.
- MILL, John Stuart. "Utilitarianism." In *Utilitarianism, On Liberty, and Essays on Bentham*. Edited by Mary Warnock. New York: Meridian, 1962, p. 251-321.
- NAESS, Arne. "The Shallow and the Deep, Long-range Ecology Movement: A Summary." *Inquiry*, v. 16, n. 1 (1973), p. 95-100.
- NIETZSCHE, Friedrich. *The Gay Science*. Translated by Walter Kaufmann. New York and Ontario: Vintage, 1974.
- OPUKU, Emmanuela and Trish GLAZEBROOK. "Gender, Agriculture, and Climate Policy in Ghana." *Environmental Ethics*, v. 40, n. 4 (2018), p. 371-387.
- PLUMWOOD, Val. *Feminism and the Mastery of Nature*. London and New York: Routledge, 1993.
- POLT, Richard. "Eidetic Eros and the Liquidation of the Real." In *The Task of Philosophy in the Anthropocene: Axial Echoes in Global Space*. Edited by Richard Polt and Jon Wittrock. London and New York: Rowman & Littlefield International, 2018, p. 63-84.
- POLT, Richard, and Jon WITTROCK. "Introduction." In *The Task of Philosophy in the Anthropocene: Axial Echoes in Global Space*. Edited by Richard Polt and Jon Wittrock. London and New York: Rowman & Littlefield International, 2018, p. ix-xix.
- RABALAIS, Nancy N., and R. Eugene TURNER. "Gulf of Mexico Hypoxia: Past, Present, and Future." *Limnology and Oceanography Bulletin*, v. 28, n. 4 (2019), p. 117-124.

- RENTMEESTER, Casey. *Heidegger and the Environment*. London and New York: Rowman & Littlefield International, 2016.
- SINGER, Peter. *Animal Liberation*. New York: HarperCollins, 1975.
- SOLLEY, D., C. GRONOW, S. TAIT, J. BATES, J., and A. BUCHANAN. "Managing the Reverse Osmosis Concentrate from the Western Corridor Recycled Water Scheme." *Water Practice Technology*, v. 5 (2010), p. 1-8.
- STOREY, David E. *Naturalizing Heidegger: His Confrontation with Nietzsche, His Contributions to Environmental Philosophy*. Albany: State University of New York Press, 2015.
- TAGLIABUE, John. "Rebuilding a Dutch Tradition, One Windmill at a Time." *New York Times*, July 22, 2008. Online: <https://www.nytimes.com/2008/07/22/world/europe/22windmills.html>. Accessed: 04/20/2021.
- THUNBERG, Greta. "2018 United Nations Climate Change Conference Speech." Online: [https://unfccc.int/sites/default/files/resource/COP24\\_HLS\\_ENGO.pdf](https://unfccc.int/sites/default/files/resource/COP24_HLS_ENGO.pdf). Accessed 05/20/2021.
- WARMAN, Arturo. *Corn & Capitalism: How a Botanical Bastard Grew to Global Dominance*. Translated by Nancy L. Westrate. Chapel Hill and London: University of North Carolina Press, 2003.
- WARREN, Karen J. (ed.). *Ecological Feminist Philosophies*. Bloomington and Indianapolis: Indiana University Press, 1996.
- WECHSLER, Matt, and Annie SPEICHER. *Sustainable*. Hourglass Films, 2016. Online: [sustainablefoodfilm.com](https://sustainablefoodfilm.com). Accessed: 04/28/2021.
- ZIMMERMAN, Michael E. "Toward a Heideggerian *Ethos* for Radical Environmentalism." *Environmental Ethics*, v. 5 (1983), p. 99-131.
- ZIMMERMAN, Michael E. "Implications of Heidegger's Thought for Deep Ecology." *The Modern Schoolman*, v. 64 (1986), p. 19-43.
- ZIMMERMAN, Michael E. *Heidegger's Confrontation with Modernity: Technology, Politics, Art*. Bloomington and Indianapolis: Indiana University Press, 1990.