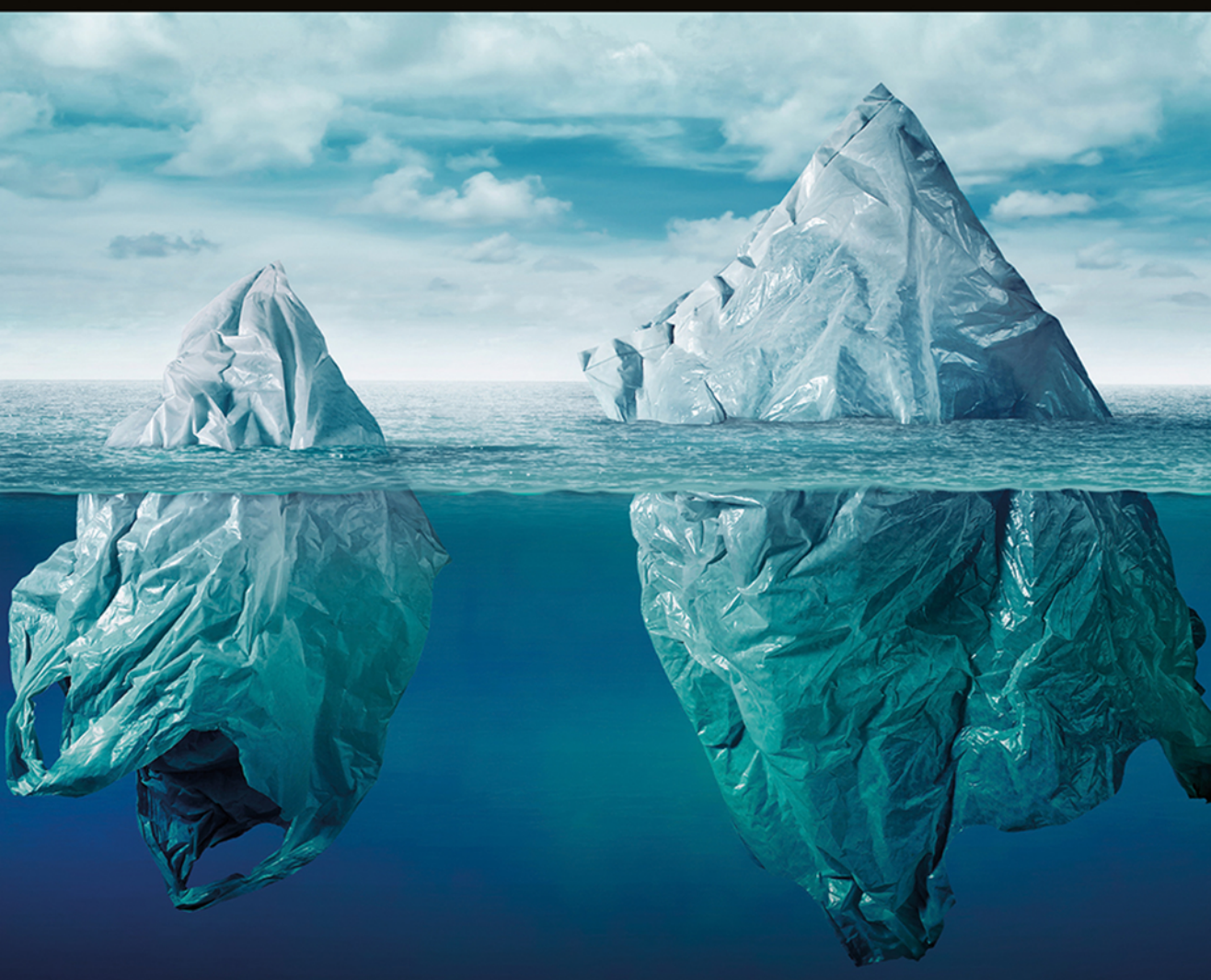
ROUTLEDGE

INTRODUCTION TO THE ENVIRONMENTAL HUMANITIES

J. ANDREW HUBBELL AND JOHN C. RYAN



Introduction to the Environmental Humanities

In an era of climate change, deforestation, melting ice caps, poisoned environments, and species loss, many people are turning to the power of the arts and humanities for sustainable solutions to global ecological problems. *Introduction to the Environmental Humanities* offers a practical and accessible guide to this dynamic and interdisciplinary field.

This book provides an overview of the Environmental Humanities' evolution from the activist movements of the early and mid-twentieth century to more recent debates over climate change, sustainability, energy policy, and habitat degradation in the Anthropocene era. The text introduces readers to seminal writings, artworks, campaigns, and movements while demystifying important terms such as the Anthropocene, environmental justice, nature, ecosystem, ecology, posthuman, and non-human. Emerging theoretical areas such as critical animal and plant studies, gender and queer studies, Indigenous studies, and energy studies are also presented. Organized by discipline, the book explores the role that the arts and humanities play in the future of the planet.

Including case studies, discussion questions, annotated bibliographies, and links to online resources, this book offers a comprehensive and engaging overview of the Environmental Humanities for introductory readers. For more advanced readers, it serves as a foundation for future study, projects, or professional development.

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"J. Andrew Hubbell and John C. Ryan's *Introduction to the Environmental Humanities* is the best introduction to the fundamentals of the Environmental Humanities as a transdisciplinary field. The book offers unchallenging explanations of the field's key concepts and theories, as well as compelling stories of humans, nonhumans, and environments to induce ecological awareness in the field's storied expanses."

– *Serpil Oppermann, Professor of Environmental Humanities, Cappadocia University*

Introduction to the Environmental Humanities

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Preface

Introduction to the Environmental Humanities

The Environmental Humanities is a relatively new, yet rapidly changing field of scholarship that integrates the perspectives of diverse disciplines—from anthropology, sociology, and geography to earth sciences to art, communications, ethnic and indigenous studies, history, literature, philosophy, religion, and theater. *Introduction to the Environmental Humanities* offers a practical, grounded, and accessible guide to the field designed for first- or second-year undergraduate students, but also useful to graduate researchers, environmental scholars, and general readers. The primary themes include climate change, sustainability, biodiversity, species loss, energy policy, the Anthropocene, environmental activism and justice, indigenous studies, and inter- and transdisciplinarity, as well as the role played by the arts and humanities in the future of the planet.

This book traces the evolution of the Environmental Humanities since the dramatic and global environmentalist turn in the post-WWII period, which took place in both academic and social settings. This historical context shaped the specific disciplinary debates out of which current practices in the Environmental Humanities emerged. Our purpose in organizing our *Introduction* around these disciplines is to ground beginning students and scholars in the history of the movement, enabling them to enter the latest multi-, inter-, and transdisciplinary research with an understanding of why they matter.

Environmental Humanities is both a product of and an agent in the radical reorganization of knowledge. In another context, we would strenuously defend this reorganization as necessary if we are to reorient human civilization away from its existential brink, a crisis caused in no small part by the knowledge-power divisions fomented since the Enlightenment. Yet students and teachers in academia are still enmeshed in this old knowledge order, with its disciplines, departments, silos, and specializations. An introductory Environmental Humanities course is likely to gather students who identify themselves by major and organize their thought by discipline. Its teachers are likely to be specialists housed in specific humanities departments. By organizing our *Introduction to the Environmental Humanities* around current disciplines, we appeal to where students and teachers are now. Historicizing the field will enable students to understand why our intertwined Anthropocene crises have required environmental humanists to develop inter-, multi-, and transdisciplinary approaches.

By acknowledging the field's disciplinary divisions and providing the means to integrate them, we also hope to enable as many opportunities to adopt this *Introduction* as possible. With a first chapter that surveys the Environmental Humanities as a whole, followed by two chapters that build essential knowledge in the science of climate change and the Anthropocene, then ten chapters detailing key disciplinary orientations, and a final chapter that opens out into the fractalization of study areas, *Introduction to the Environmental Humanities* can be

a main textbook for an introductory course. Its relatively short chapters can also be used to create part-term modules on the Environmental Humanities or supplement advanced courses within a wide range of disciplines and programs, from business and the social sciences to English, art history, and international studies.

Introduction to the Environmental Humanities assumes no prior knowledge of the key terms, concepts, theorists, and debates within the field. While recognizing the importance of the Environmental Humanities in US-Canadian, European, and Australia-New Zealand contexts, this *Introduction* provides numerous examples from African, Asian, South American, and Antarctican environments and cultures to achieve international reach and relevance. By means of this global emphasis, the text introduces readers to seminal writings, artworks, events, movements, ideas, legislation, and organizations to provide global literacy on environmental problems, actions, and solutions.

Each chapter starts with a real-world case study that provokes the questions and methods of environmental humanists. Subsequent sections contextualize the emergence of the field, offer instruction on how to practice it, and conclude with discussions of where the field is going now. Case Study, Reflection, and Waypoint boxes offer definitions, examples, current events, real-world debates and meditation on complex problems. At the end of each chapter, we offer exercises and projects that require students to use the skills and knowledge introduced by that chapter. An annotated bibliography and weblinks section in each chapter provide resources for further reading, completion of projects, and foundational knowledge in the field. While aimed at undergraduate readers, the extensive resources, global perspective, and discussion of emergent study areas will also be of interest to graduate researchers, established scholars, and the general public.

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J. Andrew Hubbell wants to express deep gratitude to his mother for her lifelong support of his scholarship; his father who enjoyed hearing early drafts of chapters but did not live to see this book completed; and his mates everywhere who make life joyful. He thanks Dr Rod Giblett for his warm and supportive friendship. He dedicates this book to Melissa Frame, his wife, whose love, compassion, zest for our life together, enthusiasm for this project, and forbearance has shown him what beauty humans are capable of.

1 Introduction to the Environmental Humanities

History and theory

Chapter objectives

- To become familiar with the core aims of the Environmental Humanities (EH) and key terminologies used in the field
- To understand the historical roots of the Environmental Humanities in a number of disciplinary areas including art, history, and literature
- To appreciate the potential contributions of the field to practices and theories of sustainability in an age of environmental crisis

Book overview

Introduction to the Environmental Humanities consists of fourteen chapters structured around key debates in the emerging field of the Environmental Humanities (abbreviated as "EH" throughout this book). This introductory chapter will demonstrate how EH integrates dialogues between the humanities, arts, social sciences, and sciences. By crossing disciplines, EH fosters a variety of new approaches to thinking about the relationship between nature and culture as well as the urgencies of the ecological problems that face the planet (DeLoughrey et al. 2015, 9). Moreover, the current momentum of the field reflects its origins in the environmental movement in the 1960s and 1970s.

As an academic area, EH has emerged from environmental inquiry in particular disciplines. In this chapter, we will characterize EH as discipline-crossing. But we hope not to lose sight of the individual disciplines upon which the field is built. These include geography (Chapter 5), history (6), philosophy (7), religious studies (8), art (9), literature (10), theater (11), film (12), and media studies and journalism (13). Our position, as authors, is that a good understanding of disciplines is a cornerstone to appreciating environmental interdisciplinarity and its raucous relatives (see Waypoint 1.1). Your trans-, inter-, and multidisciplinarity will be more productive with a solid grounding in the core disciplines. Considerations of space limited our focus to disciplines that we consider integral to EH, but we hope that, after reading this, you'll be inspired to challenge us—what do you think we should have included?

Each chapter features real-world "Case Studies" that conclude with questions to stimulate your participation in the Environmental Humanities. We also include shorter "Reflections" that center on ethical questions that EH reveals. "Waypoints" summarize key background information. We use *waypoint* in its geographical sense as "an intermediate point along a route." EH is much like a trek through the mountains that are depicted in artist Wang Jian's painting in Figure 1.3. We're pleased that you've decided to join us! Tie your bootlaces and

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let's get going! We'll start with the story of the auroch for what it shows about the necessity of interdisciplinary thinking for understanding complex social-environmental problems in the modern world.

Resurrecting the auroch

In 1627, the last lonely auroch died in the forests of Poland, extinguished by the now-familiar combination of overhunting, loss of habitat, and competition from domesticated species. Once common throughout Europe, Asia, and North Africa, they are now the extinct ancestors of domestic cattle. Genetically, however, they still live on. At every fast-food establishment across the globe, every hamburger contains a gamey hint of auroch. The ancient animal survives also in its flattering scientific name, *Bos taurus primigenius*, for "the original genius cow." And also in prehistoric art. Their hulking forms feature in the French cave paintings of Lascaux and Chauvet created over 17,000 years ago (Rokosz 1995, 6) (see Figure 1.1).

Surprisingly, the auroch story doesn't end with extinction. In the 1930s, the German zoo directors Lutz and Heinz Heck (who were affiliated with the Nazi party) made the first attempt to resuscitate the species through a process called *back-breeding* or, literally, breeding in reverse (Tanasescu 2017). After twelve years of toil, the brothers produced a breed known as Heck cattle, which didn't resemble aurochs much at all. Since then, efforts to revive the auroch have helped give birth to the science of *resurrection biology* or *species revivalism*. In 2015, for instance, a team led by biologist Stephen Park sequenced the first auroch genome, or complete set of genes, from a fossil specimen. Heck, is this a foretaste of a new episode of *Jurassic Park*, *Frankenstein*, or the *MaddAdam* trilogy?

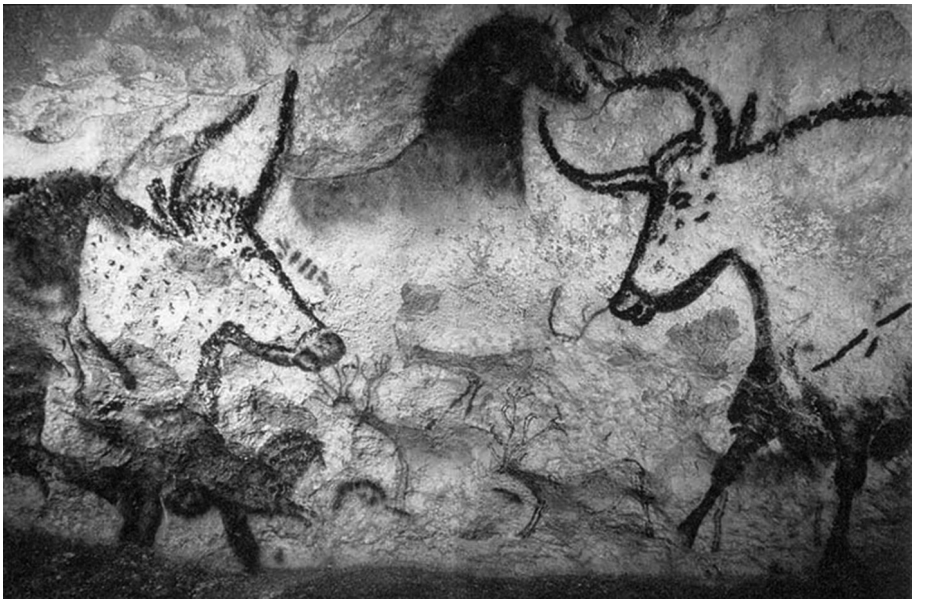

Figure 1.1 This painting of aurochs, horses, and deer at Lascaux Cave, France was made over 17,000 years ago.

Image credit: Wikimedia Commons.

Case Study 1.1 De-extinction

De-extinction is the use of cutting-edge genetic technologies to recover species that no longer exist. Those against it argue that funding should be used to conserve endangered species. Those in favor stress that humankind has a duty to reverse extinctions and restore the natural balance. Some proponents of de-extinction, moreover, support the value of *rewilding* the land with animals and plants from the past (Rewilding Europe n.d.). How do you feel about the issue? Consider the consequences for existing ecologies. Would other actions, perhaps those suggested by E. O. Wilson in his book *Half-Earth* (2016), be less risky?

What on earth are the Environmental Humanities?

Environmental historian Sverker Sörlin poses the question that most people ask when a literary, art, religion, history, or philosophy scholar starts analyzing topics like the auroch, traditionally considered to "belong" to the sciences: "what do the humanities have to do with the environment?" (2012, 788). A fair question. So, try this thought experiment: imagine you are a member of a committee tasked with investigating the benefits and risks of resurrecting *B.t. primigenius*. In order to take different interdisciplinary perspectives into account, your committee would need to include biologists, conservationists, economists, geneticists, geographers, and historians. Natural scientists would need to partner with philosophers. Anthropologists would need to collaborate with media experts to survey public opinion on the issue. Sociologists would work on identifying the possible social and cultural implications of reintroduction. Filmmakers would join forces with computer programmers to design virtual reality simulations of aurochs roaming the land once more. In other words, the auroch debate is fundamentally *interdisciplinary*. It demands that people from a range of disciplines listen to one another, participate in a lively dialogue, and contribute ideas to the decision-making process.

Waypoint 1.1 Crossing the divides between disciplines (CMIT)

EH practitioners often describe their work as *crossdisciplinary*, *multidisciplinary*, *interdisciplinary*, and/or *transdisciplinary*. Although these tongue-twisting terms tend to be used interchangeably, there are important differences between them. To begin with, keep in mind that the building blocks of these concepts are the *disciplines*—biology, history, philosophy, and so on—with their specialized forms of knowledge and well-defined methods. You can use the acronym **CMIT** to recall these four forms of working between and across disciplines.

Disciplines

- **C***rossdisciplinary* means viewing a discipline from the perspective of another discipline (so, for instance, understanding biology through history, and vice versa).
- **M***ultidisciplinary* entails various disciplines working together toward a common goal.
- **I***nterdisciplinary* involves a blending of knowledge from numerous disciplines within the scope of a single project.
- **T***ransdisciplinary* goes one step further by melding perspectives to the extent that individual disciplinary stances seem to all but vanish.

Extinction, species resurrection, biodiversity, rewilding, urban-wildland interfaces, land development, and resource use are a few of the extremely complex issues that our civilization must understand and solve in order to sustain the health and wellbeing of current and future generations. Until recently those issues would be studied in different disciplines and the knowledge would stay isolated. But you can see how that approach can lead to catastrophic mishandling of even a relatively simple problem like whether to resurrect the auroch. The truth is we can't afford to look at problems in narrow ways anymore—we know too well that our existence is beset by all the unintended consequences of narrow-minded problem-solving.

A more coherent approach to problem-solving in the twenty-first century requires the disciplines to communicate with each other: to teach each other what they know and learn to see from other disciplinary perspectives. It may even require combining disciplines into a more holistic method of knowledge. EH aspires to that more holistic combination of disciplines. That gives us more complete, practical knowledge to address the complex social-environmental problems we face today.

The return of the auroch from the dead is but one example of the diversity of contemporary issues examined in the relatively new field of the Environmental Humanities. The field resists a view of the world that divides nature from humankind, weaving social, cultural, and ecological concerns together into a tapestry. The Environmental Humanities is the broad catch-all field (capitalized in this book) including environmental art, history, and other specialized fields. We hope *Introduction to the Environmental Humanities* will persuade you that *now* is an exciting time to be studying EH and the humanities in general.

To say the least, the complexities of environmental problems across the globe have become herculean. Genetic engineering, global warming, melting icecaps, rising seas, disappearing islands, climate refugeeism, plastic waste, water and air pollution, unsustainable logging, rainforest destruction, and biodiversity loss are some of the myriad issues that bombard us daily in the news and elsewhere. As Chapter 3 will explore in detail, scientists have even gone so far as to argue that human meddling with the biosphere since the beginning of the Industrial Revolution in the late eighteenth century has resulted in a new geological epoch, the Anthropocene, replacing the Holocene that began about 12,000 years ago (Zalasiewicz 2017).

Let's take a deep breath and look at a few statistics that point to the dire shape of the environment globally. Since 1970, humankind (not-so kindly) has wiped out 60% of mammals, fish, and reptiles (Carrington 2018). In 2018 alone, three bird species became extinct. These are the beautifully named cryptic treehunter (*Cichlocolaptes mazarbarnetti*) of Brazil, Alagoas foliage-gleaner (*Philydor novaesi*), also of Brazil, and po'o-uli (*Melamprosops phaeosoma*) of Hawai'i. Known as the world's rarest marine mammal, the vaquita is a type of porpoise with less than thirty individuals remaining in the wild (Figure 1.2). What's more, the endangered red wolf of the south-eastern United States could disappear by 2025.

Figure 1.2 The vaquita (*Phocoena sinus*) is a critically endangered porpoise of the northern areas of the Gulf of California.

Image credit: Paula Olson, NOAA (Wikimedia Commons).

Sadly, the list grows and grows while statistics conceal the real consequences (material, emotional, spiritual, family-related) of species loss for people, communities, and nature. Each extinction is less life, diminishing the vibrant energy in our shared home. At the same time, the Earth is suffering from a serious fever. Each year is warmer than the previous while climate patterns have become ever more erratic and, in fact, pattern*less*, that is, lacking any rhyme or reason. According to the National Oceanic and Atmospheric Association (NOAA), the planet's surface temperature in 2018 was the fourth hottest since 1880 when official record-keeping began (NASA 2019). By all accounts, the warming trend is set to continue.

These statistics come from scientific disciplines such as biology, chemistry, and geology. So, what can the humanities tell us about the natural world? How on Earth can humanistic inquiry, with its traditional preoccupation with the human condition, save the vaquita and turn the tide of global ecological degradation? These are the kinds of questions explored in this book. In the Environmental Humanities, we are not just interested in possible solutions to some of the most urgent challenges of the twenty-first century. We also want to broaden the kinds of questions we *can* ask about the world and our place within it. Engaging our environmental condition is not simply about solving problems; it is about thinking differently so we can inhabit this planet differently.

Put simply, EH opens our eyes, minds, and hearts to the interconnections between all life in a radically changing world. Historian David Nye and his colleagues write that "scholars working in the Environmental Humanities are posing fundamentally different questions, questions of value and meaning informed by nuanced historical understanding of the cultures that frame environmental problems" (Nye et al. 2013, 28). They further comment that "major environmental problems result from human behaviors, as individuals and societies seek their version of a good life" (33). In contrast to the field of environmental studies, focusing on science and social science, the Environmental Humanities studies the natural world, environmental problems, and what "a good life" means for all living beings through the approaches of the arts and humanities.

In particular, EH highlights human behaviors, cultural values, historical patterns, social contexts, public attitudes, political ideas, religious beliefs, spiritual dimensions, moral concerns, and emotional registers (Nye et al. 2013, 4; Sörlin 2012, 788). As such, EH offers a deeper understanding of the human role in the global transformation that we hear about

almost nonstop on the Internet, social media, and television. The discipline-crossing emphasis of the field enables us to appreciate the intricate relationships between people, places, animals, plants, mushrooms, water, soil, land, and air (Tsing 2015). This appreciation oftentimes takes shape through the stories (or narratives) people and communities tell about the environment as well as the stories that the environment tells about itself in its own words (Griffiths 2007).

Waypoint 1.2 Defining the Environmental Humanities

Scholars of EH have outlined numerous characteristics of the field. Here are three for you to think about:

- *Discipline-crossing*: brings together expertise from a variety of perspectives (as in CMIT, which we discussed previously in this chapter)
- *Boundary-defying*: moves across national, cultural, and historical barriers
- *Policy-focused*: engages public policy and informs political decision-making (Nye et al. 2013, 8)

Before we delve further into the Environmental Humanities, it is essential to consider some of the lingo used in the field. So far in this chapter, we have seen that EH is not an academic discipline. It is a field of study that attempts to integrate different disciplines sharing a focus on the natural world and environmental issues. Nonetheless, *environment* is a thorny term chockful of contradictions. Just where is *the environment* located? Outside your house? Across the street? In your grandmother's kitchen? In a national park or other reserve? Anywhere one can encounter waterfalls, windstorms, and wild animals? Does experiencing the environment require jetting off to a faraway place, such as Antarctica, relatively free of human interference?

Reflection 1.1 An environmental issue

Select an environmental issue frequently reported in the media. How might a discipline-crossing, boundary-defying, and policy-focused strategy lead to solutions to the issue? If this question is stumping you, concentrate on one or two rather than all three at once. These characteristics will become clearer as we progress through the book.

For decades, scholars have struggled with *environment* and its elusive relatives like *nature*. Summarized in Waypoint 1.3, these terms refer to real phenomena (plants, animals, water, soil) but also to ideas, concepts, and principles. Criticisms of terms such as *environment* call attention to the role language plays in furthering the separation between nature (environment) and culture (humankind). Some EH writers have even resorted to creating their own words (known as neologisms) to describe the inseparability of non-humans/nature and humans/culture. Prominent feminist philosopher Donna Haraway (2003), for example, speaks of *naturecultures* whereas philosopher of science Bruno Latour refers to *nature-cultures* (Latour 1993, 7).

Waypoint 1.3 EH terminology

- *Ecology*: an area of biology exploring the relationships between organisms and their natural environments; the term comes from the Greek word *oikos* for "household"
- *Ecosystem*: a particular community of organic and inorganic elements interacting in a relatively stable manner over time (Tansley, 1935)
- *Environment*: the physical surroundings of an organism as well as a concept that links the local and regional to the planetary (Warde, Robin, and Sörlin 2018, 11-17)
- *Landscape*: a natural environment that humans have transformed, resulting in scenic views. Remember: "Landscape is a way of seeing the world" (Cosgrove 1998, 13)
- *More-than-human*: a world that is more than the home of human beings; an ethical concept that is prominent in animal studies and environmental law (Robin 2018, 7)
- *Nature*: a philosophical principle referring broadly to elements of the natural environment (plants, animals, water), often contrasted to culture (Soper 1995)
- *Natural World*: the natural environment as a whole, including organisms and their surroundings, often contrasted to human civilization (Thomas 1983)
- *Non-human*: an entity (organism or machine) that possesses some human qualities, such as the ability to communicate and respond to stimuli (Morton 2017)
- *Other-than-human*: subjects of study, especially in the discipline of anthropology, with will and determination but who are not human; common in studies of animism (Harvey 2013)

Reflection 1.2 Pinning down the language of EH

The nine terms listed in Waypoint 1.3 are not mutually exclusive but overlap to a great extent. For instance, *nature* and *the natural world* are often used interchangeably by EH scholars to refer to the global natural environment as a whole. Try applying the different terms to what you encounter in the world: a field, birds, the sky, your dorm room, a body of water. Does the right *word* help you understand your *world* better?

Historical roots of the Environmental Humanities

To tell the story of EH's origin, it might be useful to imagine that the prehistoric artists who painted the aurochs at Lascaux Cave in France were among the earliest practitioners of the Environmental Humanities (Figure 1.1). Presumably for them, nature and culture were not separate categories but, instead, were intertwined and informed each other continuously. The roots of EH, indeed, stretch deeply into the past and can be traced back to the pre-modern cultures of the West and the East (Estes 2017). The tradition of Chinese landscape painting, or *shan shui*, translated as "mountains and water," is an evocative example of the Environmental Humanities from an historical perspective. The seventeenth-century artist Wang Jian, for instance, depicted an awe-inspiring mountain scene in which huts blend harmoniously with the trees, rocks, and other features of the rugged landscape. The artwork represents the integration, or synthesis, of nature and culture that is at the heart of EH (Figure 1.3).

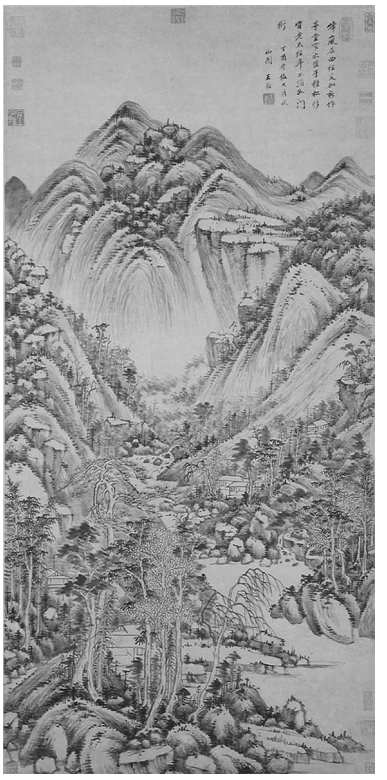

Figure 1.3 Wang Jian's ink illustration "Landscape in the Style of Huang Gongwang" (1657) is an early example of formative work in the Asian Environmental Humanities.

Image credit: Public Domain (https://www.metmuseum.org/art/collection/search/36100).

The history of the Environmental Humanities in the West (that is, in Western countries such as the United States, England, and Australia) often takes the form of a return to older ways of knowing nature that were displaced by Western science. As Bruno Latour (2004) argues, starting in the seventeenth century, Western science separated humans from nature, turning nature into a definable, controllable object of scientific knowledge. The starting premise of EH is that this separation is wrong, and so we can identify a set of influential texts, images, and moments that question this separation as part of the EH lineage.

Chief among them is writer-naturalist Henry David Thoreau's *Walden*, published originally in 1854, seven years before the beginning of the American Civil War. In the second chapter of *Walden*, "Where I Lived, and What I Lived For," Thoreau famously explained that "I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach" (1910, 118). Although critical of American society (and sometimes just plain grumpy), Thoreau understood the natural world in hopeful terms as a living source of wisdom for people and culture. Ten years after the appearance of *Walden*, diplomat-turned-environmentalist George Perkins Marsh published *Man and Nature* (1864), a pioneering call for conservation and sustainability.

Moved by the writing of Thoreau and Marsh, forester Aldo Leopold proposed the idea of a "land ethic" in his classic study, *A Sand County Almanac* (1949). Leopold urged policy-makers to consider the natural world as a subject with rights and one to be treated ethically. Leopold's text was followed over two decades later by marine biologist Rachel Carson's *Silent Spring* (1962), a compelling warning about the dangers of pesticide use. From the mid-nineteenth

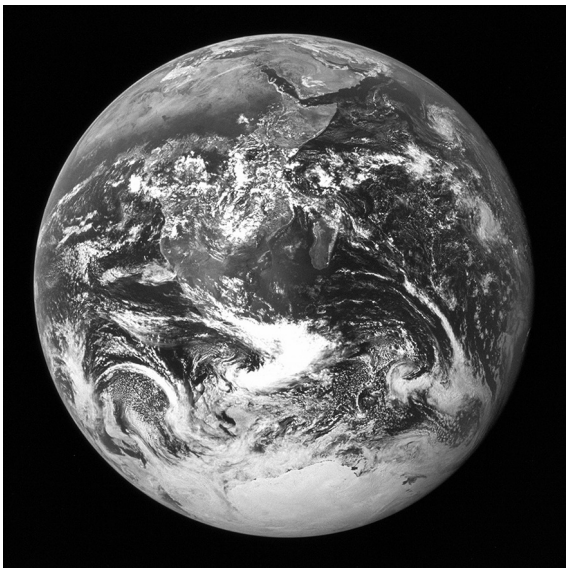

Figure 1.4 "The Blue Marble" (1972), Apollo 17, Color Photograph.
Image credit: Public Domain (Wikimedia Commons).

to the mid-twentieth centuries, these writings and a multitude of others helped to inspire the environmental movement of the 1960s and 1970s. During this time, environmental specializations within the disciplines of history, philosophy, and politics began to appear in university departments (Robin 2018, 4). In 1970, the first Earth Day celebrations took place across the United States while, in 1972, the crew of Apollo 17 snapped the iconic photograph, *The Blue Marble*, revealing the fragility and beauty of our planet (Nardo 2014) (Figure 1.4).

Reflection 1.3 The Blue Marble

In 1968, astronaut William Anders snapped the first photograph of the planet, *Earthrise*, during the Apollo 8 mission. These two images rank among the most influential in history. Research the effects of *Earthrise* and *The Blue Marble* on people around the globe. How do you feel when you look at images, such as these, of our watery planet seen from space?

The history of the Environmental Humanities parallels this emergence of the worldwide environmental movement, especially during the last fifty years. Its two emphases, one political-activist and the other scholarly-academic, often cross-fertilize each other, as evident, for example, in the Rio de Janeiro Earth Summit, also known as the Rio Conference, held by the United Nations in 1992. The summit aimed to balance environmental protection and economic development through the signing of a number of initiatives by participating nations (Van Dyke 2008, 74). It was partly inspired by and helped integrate decades of scholarship on Indigenous culture, humanistic revaluations of nature, and religious and artistic understandings of the environment. As reflected in the example of the Rio Conference, those working within the broad umbrella of EH have inspired public environmental consciousness and contributed

to changes at the global political level. While the sciences may be unmatched in describing environmental change and crisis, the humanities enable us to think more critically about the moral, ethical, social, and cultural dimensions of environmental change and crisis. They enable us to respond to ecological degradation and the dangers of human development and progress in ways that complicate, complement, and extend scientific inquiry. We will look at the ecological effects of human progress in Chapters 2 and 3 of this book.

As EH slowly emerged, it responded to the way the humanities disciplines have traditionally overlooked environmental dimensions through a strong focus on human experience (or what EH writers call *human pre-eminence*). Literary critics, for example, have traditionally viewed the environment as the static setting for staging human dramas. Since the 1990s, however, the emphasis has steadily begun to shift. An article in the *New York Times* from 1995 declared "the greening of the humanities." The phrase highlights a trend toward greater environmental consciousness in the teaching and study of the arts, humanities, and social sciences (Parini 1995). Feminist theorist Gayatri Chakravorty Spivak (2003), likewise, predicted a humanities "to come" that would be more environmentally attuned and less fixated on human ideals (6). Many EH scholars, therefore, define their purpose as *dehumanizing the humanities* by returning emphasis to the natural world and human–environment relations. This is what is meant by "decentering the human" (a phrase used frequently in the Environmental Humanities).

Case Study 1.2 The 10,000 year clock

Under construction inside a mountain in western Texas, the Clock of the Long Now is a monumental clock engineered to keep time for the next ten millennia. Once finished, it will be about 200 feet (61 meters) tall and will require a day's walk to reach. With more than 3.5 million possible musical combinations, the clock will produce a different chime each day for 10,000 years. Sunlight will warm up a sealed air chamber resulting in a pressure gradient that will drive a piston and supply power (Möllers 2014). For a technical account of the clock, see Hillis et al. (2011).

Designed by inventor Danny Hillis and author-activist Stewart Brand, the mammoth contraption reflects design principles of longevity, maintainability, transparency, evolvability, and scalability (The Long Now Foundation 2002, 2). The philosophy behind the project is that short-term thinking has got us into a global mess. The colossal clock is meant to remind us of the far-reaching consequences of our decisions. To echo virologist Jonas Salk's question, "Are we being good ancestors?" (Kelly n.d.).

After viewing the website, jot down your impressions of the Clock of the Long Now (http://longnow.org/clock). How might this unusual monument buried in a Texas mountain promote ideas of global environmental conservation?

A humanities to come? EH arrives

Since Spivak spoke over fifteen years ago of a "humanities to come," the Environmental Humanities has arrived with verve. Reflecting its historical roots, EH is a dynamic discipline-crossing field that combines academic scholarship with environmental activism. This doesn't mean that you will have to chain yourself to a bulldozer in an old-growth forest threatened by logging (though we won't stop you). Nor will you need to board a ship bound for Antarctica to protest commercial whaling. But it does mean that, at some point in your exploration of the field, you will most likely find yourself speaking on behalf of the natural

world and engaging with communities of all kinds, including humans *and* more-than-humans. (See Waypoint 1.3 in this chapter for more about the differences between those tricky terms.)

Reflection 1.4 Environmental activism

The Dakota Access Pipeline protests of 2016–17 were initiated by LaDonna Brave Bull Allard in opposition to the construction of an oil pipeline near the Standing Rock Indian Reservation in North Dakota. Chapter 4 will present a case study of this protest, one of the most significant in American history. Many people are uncomfortable with activism: it is disruptive and may often seem angry and anarchic.

What are your general impressions of environmental activism? How do you define activism? Do you consider yourself an activist? If so, what kinds of activism do you take part in? Check out this website for assumption-busting ideas: https://ideas.ted.com/tag/activism/.

The last twenty-five years in particular have seen an upsurge of activity in the Environmental Humanities worldwide. Undergraduate and graduate programs have been created at universities in North America, Europe, Asia, Africa, Australia, and elsewhere. Collaborative research centers dedicated to the field have begun to appear. For example, based in Munich, Germany, the Rachel Carson Center for Environment and Society, named after the author of *Silent Spring*, is "an international, interdisciplinary center for research and education in the environmental humanities and social sciences" (RCC n.d.). What's more, located in Sweden but reaching across the globe, the Seed Box is an EH research hub focused on creating "an interface between academia and other parts of society" (The Seed Box n.d.). Scholarly journals, such as *Environmental Humanities*, *Green Humanities*, *Resilience*, and *Landscapes*, publish the latest research in the field.

In Australia, the field is known as the *Ecological Humanities* and is distinctive for its attention to Aboriginal Australian cultures. In 2004, anthropologist Deborah Bird Rose and historian Libby Robin published one of the earliest articles to define the field as it relates to Australia (Rose and Robin 2004). Taking their lead, we want to emphasize that EH-related teaching, research, and activism are not restricted to Western nations, but embrace cultural, geographical, and biological diversities. In order to showcase that diversity, we now turn to three case studies from South America (the rights of nature), Southeast Asia (sustainable cities), and the Antarctic (ecotourism). The proof of global momentum in the Environmental Humanities is in this kind of dynamic, cross-fertilizing critical inquiry.

Case Study 1.3 Ecuador and the rights of nature

In 2008, the South American country of Ecuador became the first nation in history to recognize officially the rights of nature in its constitution. Prior to this, the idea of nature having rights existed on the radical fringes of politics where it was not taken seriously. The Ecuadorian politician and activist Alberto Acosta played an important part this landmark event. In a number of papers published on the website of the Constitutional Assembly, he used Aldo Leopold's idea of the "land ethic" to make a case for the fundamental rights of nature (Tanasescu 2013).

The Constitution lists four articles, numbered 71 to 74, under the heading, "The Rights of Nature." The first article states that "Nature, or Pacha Mama, where life is reproduced and occurs, has the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes" (Republic of Ecuador, 2008, Title II, Chapter 7). Referencing *Pacha Mama*, the Andean fertility goddess, article 71 acknowledges the importance of Indigenous people. Article 72 goes on to state that nature has a "right to be restored." Article 73 places limits on the extinction of species and the destruction of ecosystems. Read the Constitution to find out what Article 74 says.

Do you think that nature has rights? What sorts of issues might come up if your country were to formally recognize nature's rights within its constitution?

Case Study 1.4 The Garden City of Singapore

Singapore is a city-state about half the size of London. Known as the Garden City and spread out over 64 islands, it has become one of the greenest cities in the world, despite being almost 100% urbanized. Environmentally friendly design has been compulsory since 2008. Vegetation lost to development is replaced by greenery in high-rise gardens. The tallest public housing complex in the world, the Pinnacle@Duxton, contains seven buildings linked by garden walkways (Figure 1.5). Cheong Koon Hean, the first woman in charge of the nation's urban development agency, has been a major force behind this vision of Singapore as sustainable (Kolczak 2017).

Singapore's futuristic Gardens by the Bay opened in 2012. Critics have described the massive project as a "sci-fi super-garden" (Lim 2014, 443). The nature park consists of three waterfront gardens, including the Cloud Forest with its enormous 115-foot (35-meter) waterfall. The biggest of the three, Bay South Garden, features Flower Dome, the largest greenhouse in the world, and Supertree Grove with its solar-powered tree statues up to 16 stories high (Figure 1.6). The project aims to minimize environmental impacts through a number of strategies, such as the circulation of rainwater to cool the structure.

What are your first impressions of Gardens by the Bay? How might this "sci-fi super-garden" promote environmental awareness in Southeast Asia and elsewhere? Does Singapore represent a new harmony between humans and nature, or just another technofantasy?

If you really want to dive into this question, look here: http://factsanddetails.com/southeast-asia/Singapore/sub5_7a/entry-3795.html.

Figure 1.5 The Tanjong Pagar Housing Estate in Singapore is shown with the Pinnacle@Duxton in the background.

Image credit: Bob T. (Wikimedia Commons, 2019).

Figure 1.6 The Supertree Grove in The Gardens by the Bay is located in Singapore, an increasingly green Southeast Asian nation.

Image credit: CEphoto, Uwe Aranas (Wikimedia Commons 2015).

Case Study 1.5 Ecotourism in the Antarctic

Ecotourism is a form of alternative tourism that is more sensitive to the social, cultural, and ecological features of a destination. Keen for adventure, ecotourists travel to places to learn more about the ecosystems there. They often participate in low-impact

activities such as trekking, cycling, swimming, and birdwatching. What's more, ecotourists sometimes volunteer on conservation projects while staying in a country or region. A premier destination for a segment of ecotourists is the southernmost continent on the planet, Antarctica. This largest area of wilderness left in the world lacks permanent human settlement and is covered by an ice sheet 1.3 miles (2.1 kilometers) thick on average.

Over 50,000 people head to Antarctica each year during the summer season from October to February. The continent is managed by the Antarctic Treaty System of 1959, which sets out guidelines for conservation and research. Typical ecotourism activities are wildlife viewing and photography, soaking in hot springs, and gazing at the frigid landscape from the comfort of an icebreaker (Fennell 2003, 181–183). Antarctic ecotourism, nonetheless, is not always free of ecological impacts. For example, a musician on an ecotour once scared off a waddle of penguins with his first Antarctic flute performance (Fennell 2003, 183). In addition, there is the question of waste and sewage generated by 50,000 people using carbon-intensive transportation, and the disturbance of landscapes and animal ecologies unused to human intruders.

Should ecotourism in Antarctica be allowed? Or should the last wilderness on Earth be left alone?

Chapter summary

This chapter has introduced the core aims and key terminologies of the Environmental Humanities. We traced the historical roots of EH to a number of disciplinary areas, including art, history, and literature, and showed how the history of EH parallels the development of the worldwide environmental movement during the last fifty years. We described the way EH has responded to the various environmental concerns that humanities disciplines have overlooked because of their traditional focus on the human. The upsurge of worldwide EH activity in the last twenty-five years reflects an increasing awareness among scholars of the importance of balancing scientific and technological solutions to environmental problems with the approaches of the humanities, art, and social sciences. We concluded with three case studies that demonstrate the importance of humanities perspectives on ecological problems.

Exercises

1. Select a current environmental issue that is affecting your town, city, or region. Describe the effects of this issue at three scales: local, national, and global. Write a brief summary.
2. The Environmental Humanities focuses on stories of people and place. Find a story from your local newspaper about your town, city, or region. The story could be of the past, present, or future. Examine the human (cultural) and more-than-human (natural) elements of the story. Evaluate the story's balance of nature and culture—is nature just a setting or a dynamic agent of change? What are the implications for how your newspaper represents human–nature relationships?
3. The Environmental Humanities makes the bold suggestion that the environment is able to tell its own stories. Return to the story you selected for Exercise 2. Consider what the story would be like if told from the perspective of the environment. The story could be told by an animal, plant, rock, river, ocean, or the planet as a whole.

4. The idea of community is central to the Environmental Humanities. Yet, we have shown in Chapter 1 that humans are not the only members of communities. Think of a community you are currently part of. It could be a school, work, civic, or sporting community. Describe the human, non-human, and more-than-human participants.
5. The crossing of disciplines is essential to EH. Get in touch with a friend, colleague, or family member from a different discipline to your own. Perhaps your sister-in-law is a computer scientist and you are an artist. Perhaps your mother is an architect and you are a social worker. Talk with her for 15 minutes about her discipline and what that discipline presumes about the environment. Compare her discipline's presumptions about the environment to your own. How might the two disciplines be combined? What would the advantages and disadvantages be of that synthesis?

Annotated bibliography

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Adamson, Joni, and Michael Davis, eds. 2017. *Humanities for the Environment: Integrating Knowledge, Forging New Constellations of Practice*. New York: Routledge. This volume begins with a consideration of the Anthropocene and includes contributions on a range of geographies, ecosystems, climates, and social contexts. The book includes sixteen chapters divided into three sections: "Integrating Knowledge, Extending the Conversation;" "Backbone;" and "Country," all of which touch on prevailing themes in the field.

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Emmett, Robert, and David Nye. 2017. *The Environmental Humanities: A Critical Introduction*. Cambridge, MA: MIT Press. Drawing from current research, concepts, examples, and case studies, this book is a genealogy of the Environmental Humanities in European, Australian, and American contexts. The text includes ideas of postcolonialism, animal studies, queer ecology, and new materialism.

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Weblinks

Environmental Humanities. This leading journal in the field features open-access articles free to download. www.environmentalhumanities.org

Intervention: An EHL Podcast. These twelve podcasts were produced by the KTH Environmental Humanities Laboratory at the Royal Institute of Technology (KTH) in Stockholm, Sweden. www.kth.se/en/abe/inst/philhist/historia/ehl/ehl-intervention-pod

Penn Program in the Environmental Humanities, Penn Sustainability. This is one of the leading EH programs in the United States. www.sustainability.upenn.edu/partners/penn-program-environmental-humanities

The Aurochs: Europe's Defining Animal. Rewilding Europe. This online resource provides more about the auroch debate discussed earlier in this chapter. https://rewildingeurope.com/rewilding-in-action/wildlife-comeback/tauros/

The Environmental Humanities, High Meadows Environmental Institute. This institute features guest lectures by leading figures in the field. environment.princeton.edu/research/environmental-humanities/

Welikia Project. Welcome to New York City, 1609, Beyond Mannahatta. The Welikia Project is a cutting-edge example of using digital technologies in the Environmental Humanities. www.welikia.org/explore/mannahatta-map

What Is the Environmental Humanities? University of California at Los Angeles, Environmental Humanities Program. This website provides a useful introduction to the field. environmental.humanities.ucla.edu/?page_id=52

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