Environmental Futures and the Challenges of Biophilia, by Ursula K. Heise
Lecture at the presentation ceremony of the 6th Biophilia Award in Environmental Humanities and Social Sciences
March 27, 2025

It is a great honor and pleasure to be able to speak to you today about the environmental humanities and social sciences, which have become part of the broader matrix of environmental studies since the turn of the millennium. The Fundación BBVA's award is named after the biophilia hypothesis that was proposed by the well-known biologist and conservation advocate E.O. Wilson in the 1980s. In his by now classic book *Biophilia*, he argued that humans possess an "innate tendency to focus on life and lifelike processes" (Wilson 1984: 1). Biophilia, the tendency "to explore and affiliate with life is a deep and complicated process in mental development. To an extent still undervalued in philosophy and religion, our existence depends on this propensity, our spirit is woven from it, hope rises on its currents," he argued. He added that he thought modern biological research naturally converged with biophilia: "Modern biology has produced a genuinely new way of looking at the world that is incidentally congenial to the inner direction of biophilia. In other words, instinct is in this rare instance aligned with reason... to the degree that we come to understand other organisms, we will place a greater value on them, and on ourselves" (Wilson 1984: 2). Biophilia and its counterparts, biophobia and ecophobia, have been widely explored and debated in the four decades since Wilson proposed the term, by natural scientists as well as social scientists and humanists engaged with ecological processes and crises.

Wilson's own discussion of the concept is wide-ranging and anecdotal rather than systematic, a magnificent memoir of his own life in research and his travels to many parts of the world in the service of biodiversity conservation. What his initial definition already makes clear is that whatever innate tendency may exist in humans needs to be developed over a lifetime, and that Wilson himself sees biophilia's greatest promise in its convergence with scientific

reasoning, which he does not define as innate. Research in the environmental humanities and social sciences over the last three decades has taken up dimensions that Wilson discusses less: social institutions and practices as well as cultural frameworks of understanding that shape the attitudes of particular human communities toward the natural world at particular historical moments. Biophilia, environmental advocates of every stripe around the world would note today, has not prevented the large-scale degradation of natural environments as we continue to confront alarming rates of global warming, pollution, and biodiversity loss in the twenty-first century. Biophilia therefore needs to combine with the analysis of social, cultural, and political structures so as to catalyze the changes that might still prevent if not environmental crises themselves, then at least their most dangerous consequences for both humans and nonhumans. Biophilia, in this perspective, turns into a goal which we need to work toward collectively, rather than an assumption that we can take for granted. In other words, it becomes part of environmental utopian thinking – or optopian thinking, as I'll explain shortly.

My research over the last twenty-five years has focused on the cross-cultural study of environmental storytelling, that is, the way in which environmental crises that look similar or identical from a scientific point of view are narrated differently in different regions and languages. Social structures, cultural practices and historical memories – not just scientific knowledge – all inflect how particular environmental crises such as drought, deforestation, or pollution are perceived, experienced, and talked about. Storytelling is one among several powerful social factors that influence attitudes toward the environment: the theorist of narrative H. Porter Abbott has coined the term "masterplot" for those narratives that influence cultural perceptions most

powerfully, sometimes mostly unconsciously, at other times overtly. The idea, for example, that nature is a resource to be used for the benefit of humans, is a common masterplot in European and North American cultures. So is a narrative that positions humans on one side and all other species apart from them, on the other side. On the contrary, the narrative according to which land does not belong to humans, but humans belong to the land, that the land itself is animate, is shared by Indigenous communities in Australia, South America, and North America; this worldview also includes that some, if not all, nonhuman species are kin or family to humans. We find incredible diversity in how people see themselves and nature around the world. In China and Japan, the most beautiful kind of nature is that found in highly stylized and aestheticized gardens with carefully planned ponds and sculptured rocks, whereas in Canada and the United States, the ideal nature was for a long time thought to reside in wilderness, nature as untouched by humans as possible. And so on: ideas and stories about what nature is, how it relates to humans, what is beneficial or harmful about it, and what it should be in the future vary widely between cultures and change over the course of history. Knowing what these stories are and how they shape public attitudes is a crucial ingredient of successful environmental advocacy. Rachel Carson's book *Silent Spring,* for example, published in 1962, was effective in mobilizing legislation against certain pesticides by comparing environmental toxins to nuclear fall-out: this was a danger that the American public had a much clearer perception of in the Age of the Cold War than toxins associated with industrial agriculture. The German Green Party, to give another example, carefully avoided any nationalist rhetoric about the beauty of German mountains or the mystery of its forests in the 1970s and 80 because its leaders knew that alluding to such stories might conjure up traumatic memories of Nazist "blood and soil"

discourse. And in the last ten years, young activists associated with Extinction Rebellion, Greenpeace, XR and other organizations have donned polar bear outfits at public demonstrations to show that the future of young people in the twenty-first century is as endangered by climate change as polar bears are. All these forms of storytelling are shaped by their cultural contexts and calibrated to reach particular audiences, although they have sometimes ended up having an international impact far beyond the original audiences.

I have been particularly interested in this last example because it relies on the assumption that the general public is thoroughly familiar with the story of polar bears whose survival is put at risk by climate change, and because human advocates for the environment here speak at least metaphorically with an animal voice. This is a narrative technique that environmental writers and film-makers have adopted for decades now to draw attention to environmental crises, to advocate for the conservation of biodiversity, and to foster biophilia. The American novelist Ursula K. Le Guin used it in the early 1970s, at the time the environmentalist movement was emerging, to tell stories from the point of view of a rat who is being used for experiments in a lab, and from the point of view of an oak tree who, over its long life span, observes the modernization of the landscape around it with a mixture of admiration and resistance. At the same time, the Spanish documentary film-maker Félix Rodríguez de la Fuente used such narrative strategies to striking effect in his 1970s radio and television series, especially *El hombre y la Tierra*. In some episodes, Rodríguez de la Fuente foregrounded the scientific observation of animals, their ecology, and their behavior in much the way other wildlife documentaries at the time did, such as those of David Attenborough or Disney Studios.

But in other episodes, he breaks with these conventions and quite deliberately narrates events from the point of view of the animal. For example, one episode of *El hombre y la Tierra* begins quite literally with the voice of an animal: for approximately ten minutes, the only sound we hear is the howling of wolves, without any human commentary on location or context. When we finally hear Rodríguez' voice, he calls it "el canto del lobo" and connects what might sound to human ears like a melancholy lament with the near-extinction of the Iberian wolf, whose population had been reduced to 400 to 500 individuals at the time. The story that follows is narrated in Rodríguez' distinctive voice, but it presents the struggles of a female wolf for her own and her cubs' survival consistently from the wolf's point of view. She emerges as dedicated, tender, and highly intelligent mother who puts her own life at risk by luring peasants with rifles away from her den so as to protect her offspring. Later in the story, when she once again senses the approach of humans who see her as a danger to their flocks of sheep, she moves the four cubs from the original den to another hiding spot by carrying them in her mouth, one by one, in a race of time against the approaching hunters. She fails: one of the cubs dies, and we watch how she buries it; then, the hunters find the new hiding spot and capture the remaining cubs, who, as Rodríguez states, will be beaten, starved, and put to death in the nearby village. The last shot of the female wolf shows her lying down in what the viewer at this point in the story must interpret as a posture of exhaustion, resignation, and despair – a victim of human hatred. The camera then shows, again, three men with rifles approaching from the horizon in what would be the wolf's line of sight as Rodríguez de la Fuente asks his concluding question: "¿Cuándo terminará la guerra de los hombres contra el lobo?"

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This is not the distanced scientific storytelling that occurs in other wildlife documentaries, but a deliberate adoption of the animal's point of view – and, at times, her voice – to advocate against overhunting and species extinction. Rodríguez de la Fuente, through the wolf's perspective, pushes back against the masterplot of the wolf as the enemy and competitor of ganaderos, casting the ganaderos themselves as lethal predators. As is well-known, Rodríguez' campaign was successful: there are currently 2,300 wolves in Spain, and their populations are steadily increasing. But of course, as we have seen in recent weeks, wolf hunting will continue, and tension persists between agricultural and urban communities on how to co-exist with wolves.

This narrative procedure of creating a storyworld from a nonhuman point of view, pioneered by the scientist and storyteller who came to be known as "el amigo de los lobos," has since been used in fictional and nonfictional approaches to biodiversity conservation across a variety of regions, languages, and cultures. The Canadian novelist Barbara Gowdy, for example, published *The White Bone* in 1999, a novel in which all of the characters are African elephants struggling for survival amidst extensive poaching. In 2015, the Puerto Rican installation artists Jennifer Allora and Guillermo Calzadilla collaborated with the writer Ted Chiang to create *The Great Silence*, a video installation in which a Puerto Rican Parrot, a member of a critically endangered species, addresses the humans who have built the Arecibo Telescope in Puerto Rico. Its speech appears in subtitles at the bottom of the video, just like subtitles that translate dialogue in a foreign language. "The humans use Arecibo to look for extraterrestrial intelligence. Their desire to make a connection is so strong that they've created an ear capable of hearing across the universe. But I and my fellow parrots are right here. Why aren't they

interested in listening to our voices? We're a nonhuman species capable of communicating with them. Aren't we exactly what humans are looking for?" the parrot asks (Chiang 2015). This is, at least implicitly, an inquiry about the limits of human biophilia.

The parrot anticipates the disappearance of its species and long with it a way of life and a culture: "We Puerto Rican parrots have our own myths. They're simpler than human mythology, but I think humans would take pleasure from them. Alas, our myths are being lost as my species dies out. I doubt the humans will have deciphered our language before we're gone. So the extinction of my species doesn't just mean the loss of a group of birds. It's also the disappearance of our language, our rituals, our traditions. It's the silencing of our voice" (Chiang 235). The narrative of the video reaches beyond mere biological extinction to point to nonhuman ways of life and modes of cognition and communication that disappear along with an animal species.

But the parrot holds out no explicit hope that its plea will be heard by humans or that the extinction of its species can be prevented: like Gowdy, Chiang deploys the animal perspective to paint a pessimistic picture of biodiversity futures. Works such as these ask not only how far biophilia goes in preventing species extinctions, but also whether an empathy with animals or love of nature is in and of itself enough to stop the degradation of habitats across the globe. In other words, they highlight, at least implicitly, larger and more structural issues that define and limit the reach of biophilia.

But not all writers, artists, and film-makers adopt such a cautionary stance when they build storyworlds from animal perspectives. The French novelist Bernard Werber builds a storyworld equally populated by human and ant

characters in his 1990s trilogy *Les fourmis*, *Le jour des fourmis*, and *La révolution des fourmis*, based on in-depth research about the perception, communication, and social structures of ant societies. Structured as two parallel mystery stories, the plot strands start to converge when humans and ants develop a technology of communication that converts linguistic sounds into pheromones and vice versa, which allows the ants to convey to humans the impact that human use of pesticides has on ant communities. His recent trilogy narrates an increasingly violent human world from the feline point of view, with cats eventually allying themselves with humans to start creating a better world. In both cases, Werber uses the knowledge and perceptions of nonhumans to offer ways out of the dead-ends of human epistemology and ethics – in a serious vein in the ant trilogy, and a more humorous mode in the cat trilogy. Both sets of novels have become bestsellers in the Francophone world.

In these works, Werber begins to develop what the American science fiction novelist Kim Stanley Robinson has referred to as "optopia" over the last ten years: not the perfect societies envisioned by utopian projects, but improved societies whose cultures, laws, and institutions work toward increased social justice – the best possible world given the circumstances. This struggle toward justice is understood as an ongoing and dynamic process, not as a static state as in older utopias. Whatever improvement is achieved always has to be defended against adverse intentions and forces. Optopia, in other words, is a continuous fight for greater justice rather than a condition that can be achieved once and for all. Robinson's own futuristic narratives show how environmental conservation helps improve the fate of human communities. Other environmentally oriented authors take this kind of thought one step

further: they envision optopia and a more just society not just for humans, but also for other species, and they sometimes portray this vision of the future from a more-than-human perspective, i.e., an animal viewpoint.

The most accomplished example in this vein is a novel by the Martinican novelist Patrick Chamoiseau, *Les neuf consciences du Malfini* ('The broad-wing hawk's nine consciences'). In this novel, a hawk who follows his predatory instincts and pays scant attention to the lives of his prey becomes interested in an unusually courageous hummingbird who rescues a fellow hummingbird from the hawk's nest. As the hawk gives him the name Foufou and becomes fascinated with the hummingbird's activities, he discovers environmental crises: first the devastation caused by pesticide use at a nearby banana plantation, then also climate change, through multiple conversations between Foufou and other birds which arrive on the island:

> Some ... seemed exhausted from flights without end. Most looked around in fear of anything or anyone. When questioned about the cause of this paranoia, they mentioned [...] seasons that arrived too early or too late, or that drifted uncertainly outside of old patterns. [...] They spoke of ocean inlets that had dried up, of rivers unable to reach the ocean shores, of lakes fermenting into dead sludge. They also spoke of great deserts that spread over formerly fertile places. [...] That trees, insects, crowds of sedentary beings moved upwind to find a place to live, while others went downwind en masse. [...] When they weren't going round in circles, they arrived in places that were engraved in their memories, but they arrived either too early or too late, because instead of the expected feasts, there were only creeping droughts, unusual cold spells, excessive thunderstorms, floods, and tornadoes .... They often

> found themselves without flowers, without seeds, without insects, without anything that the previously infallible wisdom of their species had foreseen … The migrants raved like this, and although it all sounded insane to me, Foufou listened with grave interest.

The reader, of course, understands what Malfini does not yet at this point: that these are migratory birds affected by climate change. But Malfini does eventually join in an effort to conserve and protect native habitats on the island of Martinique that Foufou initiates, an effort that includes a variety of species and even a few humans. This narrative can of course be interpreted as an allegory of human transformation from environmental exploitation to conservation. But its insistently bird-centered perspective aims at a vision of a future society where nonhumans are subjects of ethics and justice, and bird sounds that Chamoiseau embeds in the narration never let us forget that the storyteller is not human. The story outlines a new approach to the future shapes of biophilia – a multispecies optopia.

There are many other examples of such experiments, across a variety of languages and media, to draw attention to biodiversity loss and climate change. The video game *Never Alone/Kisima Ingitchuna*, released in 2014, was developed by Iñupiaq and Tlingit storytellers and game designers in the Cook Inlet Tribal Council in Northern Canada. Its plot is based on a traditional, Iñupiaq tale, "Kunuuksaayuka." The protagonist, a young girl called Nuna, goes through a series of adventures with her animal companion, an Arctic fox. Players have to change back and forth between Nuna and the fox, inhabiting each character at different moments of the game and overcoming different challenges. Nuna and the fox are on a quest to determine the cause of unusually heavy and protracted blizzards that endanger her people: this turns

out to be an ice giant who has to be defeated in the final battle – almost certainly an allusion to climate change. Along the way, they find that their village has been burned down and robbed by a villain – almost certainly an allusion to the Arctic history of colonialism. The game introduces players not only to traditional Inuit storytelling but also to short documentaries about the cultural practices that the game is based upon – among them several that discuss Inuit communities' relationship to animals, plants, and the land. So players are invited to share in a different approach to the natural world and to inhabit the body of an animal at least temporarily.

In a similar vein, another game called *WolfQuest* would surely have delighted Rodríguez de la Fuente: in this game, the player adopts a wolf avatar and lives the natural life of a wolf – hunting, joining a pack, finding a den, finding a mate, bringing up young pups. In this game, inhabiting the body of an animal becomes a way of getting to know the natural world and to relate to it through multispecies relations.

Narratives about the natural world in both text and film have catalyzed modern environmental movements: Rachel Carson's book of popular science *Silent Spring* in the United States, which I've already mentioned; Bernhard Grzimek's books and documentaries in Germany about African wildlife, Félix Rodríguez de la Fuente's documentaries about Iberian fauna in Spain, David Attenborough's nature documentaries and Al Gore's climate change film *An Inconvenient Truth* across many countries. Of course, these examples of successful public storytelling were not enough in and of themselves: they were accompanied by political organizing and institution-building to bring about the legal and social changes that they did. But they show that well-told stories do have the power to generate biophilia and foster environmental conservation.

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I sometimes hear fellow environmentalists and colleagues in the sciences say that they wish there were a writer who could repeat the accomplishment of *Silent Spring* and mobilize the public to fight against biodiversity loss and climate change. I think that's not possible, because the media landscape is far more fractured today than it was in Carson's time. Multiple cable TV channels, websites, and social media have given rise to a multitude of small audiences, each of them attuned to different genres and contents of storytelling. And we know from empirical studies that environmental stories, especially those about climate change, do have an impact on viewers and readers, but that that impact is temporary and tends to fade after a few months. This means that a large number of diverse storytellers and a wide range of different narrative strategies are necessary to continue the work of Carson, Rodríguez de la Fuente, and the many other storytellers who helped catalyze modern environmental movements in different regions of the world. These stories need to be told in many different languages and for audiences across the media landscape today; and they need to be created continually so that neither the environmental crises of the moment nor optopian visions of environmental futures are forgotten in our daily media onslaughts.

This is the work that the environmental humanities pursue, with the help of institutions such as the Laboratory for Environmental Narrative Strategies at UCLA, the Australian Environmental Humanities Hub, the Rachel Carson Center at Ludwig-Maximilians-Universität in Munich, the Grupo de Investigación en Ecocrítica at the Instituto Franklin at the Universidad de Alcalá, the KTH Environmental Humanities Lab in Stockholm, the Environmental Humanities Center at Vrije Universiteit Amsterdam, the Instituto Mutante de Narrativas Ambientales that did such work here in Madrid

for several years, and many others around the world. They seek to develop narrative templates and train the next generation of storytellers to tell more-than-human stories, in collaboration with natural scientists who contribute their knowledge of nonhuman species and ecosystems, and in cooperation with social scientists who have done in-depth research on the dynamics that surround environmental politics, environmental activism, and environmental storytelling. What is at stake in these efforts is the future shapes that biophilia might take. It is a great pleasure and honor to see the Fundación BBVA work so effectively as a partner in these efforts to protect the more-than-human people who co-inhabit the planet with us.

Thank you.