What is Extinction? Extinction as a More-Than-Human Phenomenon

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Introduction

When we hear stories of extinction, we might think of this: The world's last dodo was killed by a sailor (PeckPerk Team, 2025). A fisherman strangled the last great auk (Galasso, 2014). The last Bali tiger fell to a hunter's bullet (conservewildcats, 2024). We remember these moments with particular clarity—these isolated acts of violence mark the end of entire evolutionary lineages. They embody a compelling (albeit cruel) logic: the story has a clear villain and an indisputable ending. Yet, by focusing on these dramatic final scenes, we may be allowing the convenience of narrative to obscure a far more complex and unsettling reality. Species extinction is not an instantaneous event. It is a process—geological, ecological, and relational—unfolding on a timescale far beyond human memory, with mechanisms of action that cannot be compared to any single act of cruelty.

This paper argues that our traditional understanding of species extinction—which is primarily interpreted through the lens of human responsibility and individual dramatic events—fundamentally distorts the nature of species extinction. Drawing on the more-than-human framework (Graham, slide 1, 2026) and multispecies studies, I propose that species extinction should not be understood as an event triggered by humans and suffered by passive organisms, but rather as a profound restructuring of the interwoven relationships within the entire web of life. When viewed on a geological timescale, species extinction is revealed to be part of the Earth's evolutionary fabric; examined through the lens of multispecies theory, it reveals cascading, networked consequences—ones that no single-species perspective can fully grasp. Finally, focusing on the peculiar sense of intimacy we experience when encountering endangered species in urban settings—as well as the monuments we erect for creatures we have never seen—demonstrates that the way humans mourn species extinction holds profound significance from both ethical and ecological perspectives.

Extinction as Natural Phenomenon

To understand why contemporary species extinction is a cause for concern, we must first examine the phenomenon of extinction within the vast timescale over which life on Earth has always unfolded. The paleontological record indicates that the average lifespan of a species is approximately 1 million to 10 million years, depending on its taxonomic group and the environmental stability of the geological period in which it lived (Raup, 1991). Extinction, in this deep-time view, is not an aberration but a fundamental engine of evolutionary change. The disappearance of species creates ecological vacuums that drive the emergence of new forms; it is, as Richard Leakey and Roger Lewin (1995) argue, as integral to the story of life as speciation itself.

Over the past 540 million years, Earth has experienced five mass extinctions, each eliminating more than 75% of species (Barnosky et al., 2011). The Permian–Triassic event was the most severe, while the Cretaceous–Paleogene extinction ended the dominance of non-avian dinosaurs. These crises were caused by forces such as volcanism, asteroid impacts, oceanic anoxia, and rapid climate change.

Today, extinction rates are estimated to be 100 to 1,000 times higher than the natural background rate of 0.1 to 1 extinction per million species per year (Ceballos et al., 2017). This suggests that Earth may be entering a sixth mass extinction, driven largely by human activities such as habitat loss, invasive species, climate change, and overexploitation. The central issue is the scale of this departure from natural extinction patterns and its effects on the wider community of life.

Extinction in the More-Than-Human World

A more-than-human perspective views humans as one participant in a web of interdependent life. Tsing (2015) argues that organisms are formed through relationships, making extinction not simply the loss of a species but the severing of ecological connections.

Trophic cascades illustrate this interdependence. After wolves were reintroduced to Yellowstone in 1995, changes in elk numbers and behavior allowed vegetation to recover, benefiting streams, beavers, birds, fish, and other species (Ripple & Beschta, 2012). The wolves' presence reshaped the entire landscape.

Kimmerer (2013) similarly presents plants as active beings capable of communication and reciprocity. From this perspective, extinction silences a participant in an ancient multispecies conversation.

Habitat destruction, invasive species, climate change, and overexploitation now disrupt these relationships faster than many species can adapt. The central concern is therefore not only how many species disappear, but how extinction weakens the relational networks that sustain life. Addressing this crisis requires greater attention to the more-than-human relationships that persist even in damaged environments.

Urban Empathy and the Practice of Grieving What We Have Not Met

Contemporary extinction is often understood through images, statistics, and stories rather than direct encounters with endangered species. For many urban residents, these representations become the primary means of relating to non-human life. Haraway (2016) describes this relationship through "response-ability": the capacity to respond to ecological loss without falling into either denial or paralysis.

The urban environment helps foster this capacity. Peregrine falcons nesting on skyscrapers, coyotes roaming the suburbs, and rare plants thriving in vacant lots all reveal

that cities are multi-species habitats, not purely human spaces. These encounters cultivate “urban empathy”—the realization that human life remains rooted in a broader ecological network.

People also mourn species they have never seen with their own eyes through commemorative events, literary works, sound art, and visual art. Such practices preserve extinct species in collective memory and extend their history beyond extinction (van Dooren, 2014). They challenge the notion that “what disappears should be forgotten.”

Thus, care does not require direct contact. As Kim Meller points out, relationships can be established through attention, responsibility, and recognition. Viewing extinction as a shared loss inherently implies establishing an ethical relationship with extinct species and accepting a certain responsibility—namely, how their memory will shape future actions.

Conclusion

What, then, can humans do within a more-than-human framework of extinction? The answer is not to retreat into guilt or paralysis, nor to imagine ourselves as saviors. Instead, the scholarship of Haraway, Tsing, van Dooren, and others suggests a path of attentive, situated engagement. This means cultivating "arts of noticing" that attend to the entangled lives of species in our midst. It means accepting that extinction is not solely a human project but a phenomenon that implicates us in networks of responsibility that exceed intentional action. It means learning to mourn species we have never seen, and to act in solidarity with those that remain. The "last dodo" narrative is compelling because it gives us a villain, a victim, and a conclusion. But extinction does not end with the last individual; it continues in the cascading effects on predators, prey, and habitats, in the memories that persist, and in the ethical demands that echo forward. To understand extinction as a more-than-human phenomenon is

to accept that we are neither the sole authors of this story nor its passive readers. We are, as Haraway insists, "compost"—entangled, mortal, and called to respond in the company of the living and the dead.

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I used ChatGPT to refine my English grammar and fluency, and used Claude as a thought partner to help me brainstorm the paper. I used the prompt: “For the final project of my “Urban Empathy” course, I need to create a Research PRIMER, and I’d like to focus on extinct animals. Perhaps the extinction of species isn’t always caused by earth-shattering events like meteorites, volcanoes, storms, or tsunamis. How can we commemorate these species we’ve never seen, and how can we build relationships with endangered species? I hope my Research PRIMER will explore this topic. I’d like to understand “extinction” as a phenomenon occurring in the “more-than-human world”, rather than discussing it solely from the perspective of human interests or impacts.”