



INTRODUCTION

Telling Lively Stories at the Edge of Extinction

How else could a book about birds and extinction begin, but with the tragic story of the Dodo? In death, this bird from a small island in the western Indian Ocean has taken on a strange celebrity, becoming something of a “poster child” for extinction. And yet, many of the specific images and ideas about the Dodo that circulate in people’s imaginations are highly speculative. Ultimately, a great deal remains unclear about what kind of a bird the Dodo was, how it lived, and when it passed from the world. While reports, sketches, and paintings of the Dodo survive from the seventeenth century, it is difficult to determine which of them is accurate and based on firsthand experience. Like a game of telephone, or Chinese whispers, it seems that many of these accounts and images were themselves based on other accounts and images, alongside varying degrees of poetic license (Hume 2006).

What we do know, however, is that Dodos (*Raphus cucullatus*) were large, flightless birds who made their homes exclusively on the island of Mauritius.¹ They probably ate mostly the fallen fruit available to a ground-dwelling bird, along with some seeds, bulbs, crustaceans, and insects. Fruit would have been abundant on the island prior to human arrival, when there were also no other terrestrial mammals present (Livezey 1993:271). In the absence of these mammals, Dodos likely had fewer competitors for

these foods than did birds in many other places, but importantly, they also had no significant predators themselves—a situation that did not prepare them well at all for what was to come with the arrival of humans.

It is unclear who the first people to set eyes on the peculiar form of the Dodo were. Perhaps they were among the Arab traders who likely discovered the island in the thirteenth century. Or perhaps they were Portuguese sailors, among those who started visiting the island a few hundred years later (from 1507). As far as is known, however, neither of these groups settled on Mauritius, and no documentary evidence of an encounter with a Dodo remains.

The first reliable accounts of the Dodo were written by the Dutch after they arrived on the island in 1598 (Hume 2006:67). For roughly the next century, the Dutch East India Company used Mauritius as a “pasturing and breeding ground for livestock and a source of wild native meat” (Quammen 1996:265). This was the beginning of the end for the Dodo. Not only were they themselves on the menu—along with tortoises and a number of other local birds—but the various mammals that were intentionally and accidentally introduced to the island by the Dutch took their own huge toll.

Part of the problem for Dodos was undoubtedly their susceptibility to capture by hungry sailors and settlers. As flightless birds who had no previous experience of predators, they were easily captured by hand or beaten with a stick (Quammen 1996:266–68). While there have been frequent suggestions over the past few hundred years that Dodo meat was very unpalatable and infrequently consumed, that does not seem to have been the case. Paleontologist and Dodo expert Julian Hume (2006:80) has provided details of numerous firsthand accounts of the Dutch “relishing” the meat—in particular, the breast and stomach—and daily catching and eating many of these birds.²

It is likely, however, that the biggest problems that the Dodo faced after the arrival of humans on Mauritius were the other species of animals that came along on the journey. Foremost among them, chronologically at least, was probably the black rat (*Rattus rattus*). As in so many other places that European ships docked in the period, rats arrived early and with devastating force. Dodo eggs and young chicks, which up until this time would have required little protection, were an easy source of food. A little later, in the first decades of the seventeenth century, other new spe-

cies joined them—notably, crab-eating macaques, goats, cattle, pigs, and deer. All these animals likely played a role in the decline of the Dodo: as predators, competitors for food, or both (Hume 2006:83).

No visitors to the island recount seeing a Dodo after the 1680s, perhaps a little earlier, and all evidence suggests that the species was extinct by the end of the seventeenth century (Hume, Martill, and Dewdney 2004). After thousands of years of peacefully gorging on fruits, the Dodo was suddenly thrust into an encounter with European culture, and just as quickly slipped out of the world.

While this was by no means the first species in whose loss humans were centrally involved, the Dodo inhabits a peculiar and iconic place in many contemporary accounts of extinction. This bird, and this biological process, have become strangely synonymous. If you ask the next person you see what they know about the Dodo, you might be told that it lived in Mauritius; you might even be told that it was a flightless bird; you will definitely be told that it is extinct.

“Dead as a Dodo”; little else about these birds seems to linger in our imaginations.

Perhaps this is because so little else is known with certainty about the species. But perhaps another reason for this close association between the Dodo and extinction is the particular way that this bird entered into written history. According to Beverly Stearns and Stephen Stearns (1999), the Dodo has the dubious honor of being “the first species whose extinction was conceded—in writing—to have been caused by humans” (17; see also Quammen 1996:277).³

I can offer no guarantee that the Dodo was actually *the* first species to be written about in this way, but it was certainly among the first. This was an extinction that occurred in the midst of the emergence of a slow realization by some European explorers and colonists that they might have huge impacts on the environments they were visiting, especially those of small islands. As environmental historian Richard Grove has noted, Mauritius was cited at the time as a key example of this potential. As forests were cleared and animal and mineral resources depleted, a “coherent awareness of the ecological impact of capitalism and colonial rule began to emerge” (Grove 1992:42). On Mauritius, however, it was too little, too late—both for the Dodo and for the numerous other species lost during this same period.

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And so the Dodo entered into written accounts as a species driven to extinction by human activity, its fate strangely bound up with a dawning historical awareness that human activity might not just kill individual plants and animals, sometimes in their thousands, but also bring to an end whole ways of life. As a result of this awareness, the loss of species might be understood and narrated in a way that significantly *implicates* us—causally, perhaps emotionally, and certainly ethically. This is our sad inheritance from the Dodo.

In an important sense *Flight Ways: Life and Loss at the Edge of Extinction* is a continuation of the now well-established tradition of telling “extinction stories” that implicate people. But it is also an effort to tell these all-too-familiar stories in a new way. Specifically, the approach to thinking through extinction taken up in this book centers on “avian entanglements.” Which is to say that this is a book about birds and their relationships, about the webs of interaction in which living beings emerge, are held in the world, and eventually die. Life and death do not take place in isolation from others; they are thoroughly relational affairs for fleshy, mortal creatures. And so it is, in the worlds of birds—woven into relationships with a diverse array of other species, including humans. These are relationships of co-evolution and ecological dependency. But they are also about more than “biology” in any narrow sense. It is inside these multispecies entanglements that learning and development take place, that social practices and cultures are formed. In short, these relationships produce the possibility of both life and any given way of life. And so these relationships matter. This is true at the best of times, but in times like these when so many species are slipping out of the world, these entanglements take on a new significance.

Flight Ways is composed of five extinction stories, each focused on a group of threatened birds. In emphasizing these birds’ entanglements, the book draws us into a deeper understanding of who they are, who we are, and ultimately how it is that we all “become together” (Haraway 2008), for better or worse, in a shared world. Through this lens, it is clear that much more than is often appreciated is at stake in the disappearance of birds. And so we are able to understand in new ways the diverse significances of extinction: What is lost when a species, an evolutionary lineage, a way of life, passes from the world? What does this loss mean within the particular

multispecies community in which it occurs: a community of humans and nonhumans, of the living and the dead? How might we think through the complex place of human life at this time: simultaneously, a/the central cause of these extinctions; an agent of conservation; and organisms, like any other, exposed to the precariousness of changing environments?

In focusing on entanglements, this book aims to present alternative understandings of extinction to those grounded in entrenched patterns of “human exceptionalism.” This exceptionalism presents humans as fundamentally set apart from all other animals and the rest of the “natural” world (chaps. 2 and 5). In this context, extinction cannot help but be regarded as something that happens “over there” or out in “nature.” In contrast, the approach taken in this book is grounded in an attentiveness to the diverse ways in which humans—as individuals, as communities, and as a species—are implicated in the lives of disappearing others. Paying attention to avian entanglements unsettles human exceptionalist frameworks, prompting new kinds of questions about what extinction teaches us, how it remakes us, and what it requires of us. This last question is of particular importance. Ultimately, this book is concerned with broad questions of ethics: What kinds of human–bird relationships are possible at the edge of extinction? What does it mean to care for a disappearing species? What obligations do we have to hold open space in the world for other living beings?

FROM DEEP WITHIN A TIME OF EXTINCTIONS

Sadly, extinction is not a topic that generates a great deal of popular interest at the present moment. I suspect, however, that in the future to come—if humanity is here at all—extinction will be among the handful of themes that is understood to be central, perhaps even definitional, of our time. We are the generations that are overseeing the loss of so much of the diversity of living forms on this planet, the generations that are perhaps yet to fully understand and respect the significance of the intimately entangled, co-evolved, forms of life with which we share this planet.

According to some biologist and paleontologists, this period may well be Earth’s sixth mass extinction event (Kingsford et al. 2009); according to others, we are not quite there yet, but certainly on the way (Barnosky

et al. 2011). Past mass extinction events, like the one that took the dinosaurs roughly 65 million years ago at the end of the Cretaceous and the even larger end-Permian event around 250 million years ago, saw losses of more than 75 percent of Earth's species (Jablonski and Chaloner 1994; Raup and Sepkoski 1982). In place of meteor impacts, volcanic eruptions, and the various other forms of massive upheaval proposed as possible causes for the previous "big five" events, it is tragically clear that ours is an *anthropogenic* extinction event. Current deaths of species are being brought about, directly and indirectly, by a range of interwoven human activities—including the destruction of habitat, the promulgation of introduced species, direct exploitation and hunting, the indiscriminate introduction of a range of new chemicals and toxins, and now increasingly the various impacts of climate change.⁴

The scale of this loss is unknown and unknowable with any real certainty. Biologist Richard Primack (1993) estimates that the current rate of extinction is likely 100 to 1,000 times greater than would be expected as a result of normal "background extinction."⁵ According to some scientists, we are now on a trajectory to lose between one-third and two-thirds of all currently living species (Myers and Knoll 2001:5389). Within this broader space of loss, some taxonomic families will be hardest hit. Frogs, salamanders, and other amphibians, for example, are considered to be at particular risk, with approximately one-third of all species now thought to be endangered or recently extinct (Stuart et al. 2008).

Birds, too, have also been hard hit by extinction. In the past 500 years, 153 documented avian extinctions have occurred (Birdlife International 2008:4). It is likely, however, that the actual number is much higher, as some species that are listed as "critically endangered" are in actuality already extinct, and others will disappear without having been documented at all. Today, one in eight known bird species is thought to be threatened with global extinction, while among some taxonomic families, the number is much higher (Birdlife International 2008:5)—for example, 82 percent of all albatross species are threatened (chap. 1).

Those birds that make their homes on islands have also tended to fair particularly badly. While "only" 20 percent of the world's bird species are confined to islands, approximately 90 percent of the avian extinctions that have occurred in recorded history have been those of island inhabitants (Quammen 1996:264). For example, in and around the Pacific Ocean

where much of this book is set, successive waves of human settlement (and colonization and occupation) have taken their toll (Steadman 2006). As biologist John Marzluff (2005) has simply put it: “In little over a thousand years we have extinguished more than half of all the bird species that occupied the lush islands of the tropical Pacific” (256). As we enter more deeply into this current period of loss, however, mainland birds—including some of those once thought exceedingly common—are also increasingly being placed at risk of extinction (for example, the Indian vultures discussed in chap. 2).

But despite all these known losses—from the Dodo to the Passenger Pigeon (*Ectopistes migratorius*) and the King Island Emu (*Dromaius ater*)—our knowledge of this situation remains thoroughly partial. The total number of species being driven over the edge in this “time of extinctions” (Rose and van Dooren 2011) simply overwhelms our capacity for understanding. We just do not know how many are being lost: How could we, when we do not even know how many species there are on this planet with any reasonable degree of certainty? While we sometimes hear about a handful of charismatic endangered species, countless others go completely unremarked on and even unnoticed (at least by modern science, and perhaps humans more generally).⁶ As biologist Bruce Wilcox (1988) notes, “[F]or every species listed as endangered or extinct at least a hundred more will probably disappear unrecorded” (ix).

TELLING LIVELY STORIES ABOUT EXTINCTION

Flight Ways is set within the shadow of this incredible loss. It is in this context that it asks about the nature of extinction and why and how it matters. As a whole, this book is grounded in the conviction that there is no single “extinction” phenomenon. Rather, in each case there is a *distinct* unraveling of ways of life, a distinctive loss and set of changes and challenges that require situated and case-specific attention. In delving into the lives and deaths of particular bird species, this book attempts to draw out their “entangled significance.” Across simultaneously “biological” and “cultural” domains, the book explores some of the ways in which diverse living beings—humans and not—are drawn into the extinctions of others. Far more than “biodiversity”—at least in the narrow sense that the term is

often used—is at stake in extinction: human and more-than-human ways of life, languages, ways of mourning and being with others, even livelihoods and diverse cultural and religious worlds are often drawn into the fray as species move toward, and then beyond, the edge of extinction.

Narrative is my way into this complexity; stories allow us to hold open simultaneously a range of points of view, interpretations, temporalities, and possibilities (Griffiths 2007). But this book takes a particularly “lively” approach to telling stories about life and death in the shadow of extinction.⁷ It is an effort to weave tales that add flesh to the bones of the dead and dying, that give them some vitality, presence, perhaps “thickness” on the page and in the minds and lives of readers. This is an inherently multidisciplinary task, and so the stories that I tell in this book engage with the literatures of biology, ecology, and ethology (the study of animal behavior and cognition), as well as with interviews and conversations with scientists of various kinds. In drawing on the natural sciences, I hope to invite readers into a sense of curiosity about the intimate particularities of these disappearing others: how they hunt or reproduce, how they take care of their young or grieve for their dead, how they make themselves at home in the vast Pacific Ocean or along an urban coastline. Paying attention to the details of how these lives are, or once were, lived invites us into a sense of wonder.

Rendered in this way, these creatures become more than a name—no longer an abstract Latin binomial on a long list of threatened species, but a complex and precious *way of life*. And so this approach to storytelling is a core part of my effort to capture a fuller sense of what extinction *is* and to insist that nonhuman others are not simply “life forms,” but “forms of life” (Helmreich 2009:6–9). I draw this distinction from the anthropologist Stefan Helmreich (2009), who puts it to productive use to explore the entanglement of various “life forms”—understood as organisms in ecological relationship—with diverse “forms of life,” which, adapting Ludwig Wittgenstein, he understands as “those cultural, social, symbolic, and pragmatic ways of thinking and acting that organize human communities” (6). There is, however, no reason why a line must be drawn at the human, and so the stories in this book are particularly interested in the “forms of life” that have emerged, and are possible, for some of the many disappearing other-than-human “life forms” that populate this planet. As will be discussed in detail in chapter 1, this understanding of birds (and other

organisms) as life forms *with* a form or way of life is central to my notion of species as “flight ways.”

In drawing on the perspectives of the natural sciences in taking up this topic, my intention is not to imply that they offer us the only—or even necessarily the best—means of understanding the lives and deaths of birds. And yet, some of the work within these disciplines has provided ways of knowing that deeply influence my own appreciation of the world and my sense of the significance of extinction. As such, I draw on work in the natural sciences that I think helps to animate a fuller and richer sense of the lives of particular beings. This approach takes seriously Donna Haraway’s (2008) injunction to practice a genuine curiosity in our philosophical engagements with a more-than-human world; it is a practice grounded in “knowing more at the end of the day than at the beginning” (36).

As I researched each chapter—reading, thinking, and conducting interviews and fieldwork—I got to know these species in new ways. In each case, I was surprised by the way in which “knowing more” draws us into new kinds of relationships and, as a result, new accountabilities to others. As I came to understand a little better the particular dynamics of the relationship between Little Penguins and the coastlines that they nest on, I began to appreciate in new ways the ethical weight of our destructive actions in these places (chap. 3). As I reflected on the complex ecological and social relationships that Hawaiian Crows live within, I also developed a new awareness of the significance of their disappearance from island forests (chap. 5). And so I came to appreciate the ethical work that these stories may do in the simple act of making disappearing others thick on the page, exposing readers to their lives and deaths in a way that might give rise to genuine care and concern.

My guide in thinking through the ethics of storytelling in this way is James Hatley’s work on narrative and testimony in the face of the Shoah. Hatley forcefully reminds us of the ethical demands of the act of writing: of giving an account or telling stories. In place of an approach that would reduce others to mere names or numbers, in place of an approach that aims for an impartial or “objective” recitation of the “facts,” Hatley argues for a form of witnessing that is from the outset already seized, already claimed, by an obligation to those whose stories we are attempting to tell. This is particularly the case when our stories play the role of witness or testimony to the suffering and deaths of others (Hatley 2000:114). In the

context of extinction, these kinds of stories are not an attempt to obscure the truth of the situation, but to insist on a truth that is not reducible to populations and data: a fleshier, more lively, truth that in its telling might draw us all into a greater sense of accountability (van Dooren 2010; but see Smith 2001:368). As William Cronon (1992) simply puts it: “Good stories make us care” (1374).

Consequently, at the same time as they may offer an account of existing relationships, stories can also connect us to others in new ways. Stories are always more than simply descriptive: we live by stories, and so they are inevitably powerful contributors to the shaping of our shared world. This is an understanding that works against any neat or straightforward division between the “real” and the “narrated” world (Kearney 2002:133–34). Instead, I see storytelling as a dynamic act of “storying” the world, utterly inseparable from lived experience and a vital contributor to the emergence of “what is.” Stories arise from the world, and they are at home in the world. As Haraway (forthcoming) notes, “‘World’ is a verb,” and so stories are “of the world, not *in* the world. Worlds are not containers, they’re patternings, risky co-makings, speculative fabulations.” Even a story that aims to be purely mimetic can never simply be a passive mirror held up to “reality.” Stories are a part of the world, and so they participate in its becoming. As a result, telling stories has consequences: one of which is that we will inevitably be drawn into new connections, and with them new accountabilities and obligations.

And so the bird stories that this book tells/does are “lively” in both their message and their form—that is, in their commitment to the continuity of diverse ways of life, and in their attempt to enact stories as interventions into existing patterns of living and dying in an effort to work toward better worlds.

THE EDGES OF EXTINCTION

As previously noted, this book is animated and guided by a desire to weave stories that explore and convey the entangled significance of extinction. In so doing, a key part of my interest is in broadening our notion of what extinction actually *is*, beyond the simple black-and-white versions of it that often dominate. These conventional understandings center on the death

of the last individual of a kind. We may not very often be sure if any given individual really is the last, but we are usually confident that if we did (or could) know for certain, then we would be able to pinpoint the precise moment of an extinction. The death of Martha the Passenger Pigeon at the Cincinnati Zoo in 1914, or that of an unnamed Po’ouli (*Melamprosops phaeosoma* [a Hawaiian honeycreeper]) in conservationists’ hands in 2003, were in all likelihood simultaneous deaths of individuals and “extinctions” in this sense.

There is, of course, something entirely accurate about this understanding. Something important and profound took place with the deaths of these last individuals. And yet, the immensity and significance of extinction cannot be captured within these singular events, as though a species might be deemed to be extinct or not solely on the basis of the presence in the world of at least one individual of that kind/lineage. This understanding reduces species to specimens—reified representatives of a “type” in a museum of life—in a way that fails to acknowledge their entangled complexity (chaps. 1 and 2, in particular). The nomadic form of life of Passenger Pigeons, moving through the sky in flocks of hundreds of millions of birds that blocked out the sun, had long since come to an end when Martha passed away in 1914. As Passenger Pigeon numbers dwindled, the social and behavioral diversity of this unique way of life—of what it was to *be* a Passenger Pigeon in some fundamental sense—would also have broken down. Similarly, over the decades before Martha’s death, the interspecies relationships that the Passenger Pigeon evolved and lived within would also have become increasingly fractured as these birds stopped playing any significant role in the lives and nourishment of diverse humans and nonhumans.⁸

A singular focus on Martha’s death covers over all of this; it presents a species as somehow “ongoing” because one individual continues to draw breath in a zoo, while the entangled relations that in a nontrivial sense *are* this particular life form and its form of life, have long ago become frayed and disconnected.

The point here is not that a bird in a zoo is not a bird at all. Clearly, many birds are capable of living in a range of environments, of adapting to changed conditions: a species is not a single, narrow, and unchanging way of life—as is indicated so well by the numerous birds and other animals who have taken up residence within, sometimes as an integral part

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of the emergence of, “human” cities (Hinchliffe and Whatmore 2006; van Dooren and Rose 2012; Wolch 2002). Rather, the point is that the loss, the change and disruption—often accompanied by violence and suffering—that occurs in extinction must not be reduced to this one event. Instead, the deaths of these last individuals must be understood as singular losses in the midst of the tangled and ongoing patterns of loss that an extinction is.

This understanding of extinction is, of course, grounded in an attentiveness to entanglements. When species are understood as vast intergenerational lineages, interwoven in rich patterns of co-becoming with others (chap. 1), then their departure from the world cannot help but be felt in a range of complex and drawn-out ways. In an effort to take these entanglements seriously, this book focuses on some of the various “edges of extinction.” In spending time in this terrain of living and dying, I have become acutely aware that extinction is never a sharp, singular event—something that begins, rapidly takes place, and then is over and done with. Rather, the edge of extinction is more often a “dull” one: a slow unraveling of intimately entangled ways of life that begins long before the death of the last individual and continues to ripple forward long afterward, drawing in living beings in a range of different ways (chap. 2, in particular).

As becomes clear in this book, these spaces at the edge of extinction are far from uniform. Each of the birds discussed draws us into a different set of relationships. In one case, it is a space in which countless albatross chicks die each year through the consumption of plastics and other toxins. In another, it is a space of contestation between penguins returning faithfully to a disappearing coastline that was once their nesting site and the people, dogs, and others that now also call this place home. In the context of Hawaii’s crows, it is a space of both potential and actual grief and mourning, in which the deaths of others might provide powerful opportunities to relearn our place in a shared world.

In many of these cases, the edge of extinction is now also deliberately flattened and drawn out by active human intervention to conserve disappearing species. Through these efforts, species are held in the world for decades more than they might otherwise have survived. In addition, therefore, to being spaces of suffering, death, and loss, these edges of extinction are now often also places of intense hope and dedicated care. Chapter 4, in particular, explores the way in which the edge of extinction might be

flattened through conservation efforts—in this case, with a focus on the iconic Whooping Crane. Here, my particular interest is in the strange juxtaposition of violence and care, of coercion and hope, that characterizes the lives and deaths of captive cranes (and many other species) at the “dull edge of extinction.”

In short, these edges of extinction are varied, complex, and conflicted spaces in which diverse relationships, diverse multispecies communities, emerge as possibilities of life and death for everyone—not just the “endangered”—are remade.

THE STRUCTURE OF THIS BOOK

The approach taken in *Flight Ways* is situated within ongoing discussions in two emerging fields of scholarship: animal studies and the environmental humanities. Both are thoroughly interdisciplinary fields where the humanities and social sciences are drawn into conversation with the natural sciences. This book aims to contribute to both areas of scholarship, but also to encourage the deepening of dialogue between them.

Each of the chapters might be read in isolation. On the surface, each of them tells a unique and largely self-contained story, with occasional references to related discussions in other chapters. However, my intention is for the book to be read in order and as a whole. In gentle but important ways—ways that will hopefully become clear as the reader moves through the book—each chapter builds on those that precede it, taking for granted both concepts and commitments that are fleshed out more fully in earlier chapters.






Chapter 1 explores the plight of the Black-footed Albatrosses (*Phoebastria nigripes*) and Laysan Albatrosses (*P. immutabilis*) of Midway Atoll in the remote North Pacific Ocean. The chapter takes up this topic through a focus on the difficult work of fledging young albatrosses (that is, raising them until they are ready for flight): the creation of a solid pair-bond between breeding birds, the laying and incubating of eggs, the months of movement back and forth between land and sea in search of food to satisfy hungry young chicks. Through this account, the chapter proposes a particular understanding of what a species is, an understanding that focuses on the time, energy, and labor that are required to keep successive



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Key:

-  North Pacific albatrosses
-  Gyps vultures
-  Little Penguin
-  Whooping Crane
-  Hawaiian Crow

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generations in the world. In this context, species are incredible *achievements*: intergenerational lineages stretched across millions of years of evolutionary history. In our time, however, the circulating waste of human societies threatens the continuity of albatross species, harming and killing breeding birds and their young. In this context, the chapter focuses on the diverse temporalities enfolded at this site of encounter. Here, the daily lives of birds—and, ultimately, the futures of their species—come into contact with persistent pollutants and seemingly immortal plastics. Ultimately, the chapter explores some of the ways in which the difficult task of taking seriously these vastly different temporal horizons and their overlaps and intersections provides us with a fuller sense of the immensity of what is lost in extinction, while drawing us into new and deeper responsibilities for our living world.

Chapter 2 considers some of the contemporary entanglements of vultures (genus *Gyps*), people, cattle, and others in India, with a particular focus on the way in which lives and livelihoods are made possible inside interactions in a more-than-human world. In the context of Indian vultures, this situation is made more complex because these species are rapidly approaching extinction. When vultures are no longer around to take up the relationships that they once did, many other lives are made difficult or impossible—with poor and rural communities very often bearing the majority of the human burden. In this context, the chapter takes up the notion of the “dull edge of extinction” to explore some of the inequities of exposure to suffering that emerge inside relationships of multispecies dependency. This is a topic that can only take on increasing importance as we move ever more deeply into the current period of extinctions and a time of greater climatic and environmental change.

Chapter 3 takes up the story of a tiny colony of penguins that make their home just inside the mouth of one of Australia’s busiest ports, Sydney Harbour. Members of the world’s smallest penguin species, these Little Penguins (*Eudyptula minor*) stand roughly 1 foot (30 cm) tall and weigh around 2 pounds (1 kg). They also make up one of the last penguin colonies left on the Australian mainland and the last in the state of New South Wales. For roughly eight months of each year, these penguins return to this harbor, coming ashore at various places to lay eggs and fledge young. Increasingly, however, their burrows are being lost to them through urban development and its accompanying patterns of light, noise,

and disturbance (in particular, predation by domestic dogs). This chapter explores the nature of these penguins' attachment to their specific breeding places, called "philopatry" or "site fidelity." Despite ongoing changes and increased danger, year after year they return. The chapter argues for an understanding of these breeding sites as "storied-places," invested with history and meaning for penguins. Consequently, it explores the ethical significance of destroying places that penguins (and others) are in an important sense tied to. The chapter asks: What kinds of ethical obligations might be opened up by a new sensitivity to the storying and place-making practices of penguins and other nonhumans?

Chapter 4 is focused on one of North America's longest-running conservation programs, that of the iconic Whooping Crane (*Grus americana*). For more than forty years, conservationists in the United States and Canada have worked to protect these birds and their wintering and summering grounds. On many levels, this is a story of care and success in which conservationist have managed to pull the species back from the edge of extinction—from fewer than 20 birds in the early twentieth century to roughly 600 today. This chapter takes up this conservation story through a close focus on the elaborate captive breeding and release program that for some young birds culminates in the use of ultralight aircraft to teach them a new migratory route. My particular interest is in the strange juxtaposition of care and violence that lies at the heart of this effort and the ethical dimensions of the human–crane relationships that are being established. Who suffers and who dies so that new populations of this species might make their way back into the world? On what grounds are the lives of some beings sacrificed for the sake of others, and might a concerted effort to inhabit and examine these complex and difficult situations—"staying with the trouble" (Haraway, forthcoming)—provide an opening into a more ethical mode of conservation?

Chapter 5 returns us to the heart of the Pacific Ocean, this time with a focus on the only endemic corvid species, the Hawaiian Crow (*Corvus hawaiiensis*). In 2002, the last free-living crow died. As forest-dwelling fruit specialists, these crows have been significantly affected by the degradation of local forests, as well as by increased predation and introduced diseases. This chapter considers the limited ethological literature on the ways in which crows (and corvids more generally) respond to the deaths of others of their kind. Much of the history of Western thought has utilized animals'

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understandings of and responses to death to construct a dualism between “the human” and “the animal.” This dualistic thinking is at the core of a human exceptionalism that holds us apart from the rest of the world and, as such, contributes to our inability to be *affected* by the incredible loss of this period of extinctions, and so to mourn the ongoing deaths of species. In contrast to this tradition, this chapter explores some of the ways in which taking crows’ grief seriously may, in fact, work to undermine our sense of human exceptionalism—in particular, by highlighting both a deep evolutionary continuity between humans and other social animals, and our ecological entanglement in a more-than-human world. In this way, telling stories about grieving crows may itself become an act of mourning extinctions. This would be a mode of mourning that does *not* announce the uniqueness of the human, but works to undo exceptionalism, drawing us into company with crows and others to grieve for the loss of a world that *includes us*, to grieve the countless deaths that constitute this time of extinctions.

Through each of these avian case studies, *Flight Ways* explores new modes of storytelling. Ultimately, it offers a call for stories, a call for new ways for figuring our place in and obligations to a rapidly changing world.

