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The Spokesbird



turkey vulture is a perfect creature. It is neither prey nor predator. It exists outside the typical food chain, beyond the kill-or-be-killed law of nature, although without death it would starve. On six-foot wings it floats above our daily lives, waiting for the inevitable moment that will come to each of us, to every living thing. Then the vulture transforms these transformations—these deaths—into life. It wastes nothing. It does not kill. It is not a murderer, and it is not often murdered. The turkey vulture waits. Waits and wanders on its great wing sails.

Watching a soaring turkey vulture is like meditating. Gently rocking with the breeze, wings fixed in a shallow dihedral, a

vulture's flight looks peaceful and elegant, almost contemplative. Although their movements are purposeful, the birds appear relaxed and unhurried, like long, slow breaths. In times of stress or struggle, gazing at a vulture overhead is a reminder to glide, to sail, to use the prevailing winds.

I have a thing for vultures, especially turkey vultures. In addition to their grace and elegance, I admire their thrift, their role as the gentle recyclers of the animal kingdom, and their unique beauty. When the sun hits a turkey vulture just right, its feathers look iridescent, a shimmering purplish black. In other light, the backs of its wings are a rich chocolate, nearly bronze, with soft golden edges. In flight, which appears almost effortless, a turkey vulture floats like a kite, mastering the winds. Although its wingspan rivals an eagle's, the turkey vulture lacks an eagle's bulk, brute strength, sharp talons, and killer instinct; the Cherokee call them "peace eagles," and their Latin name, *Cathartes aura*, means "breezy cleanser." Large, docile, and usually silent, the turkey vulture often goes unnoticed, although its distant black silhouette is omnipresent, floating on the horizon.

▼ The turkey vulture is the world's most widely distributed and abundant scavenging bird of prey, found from southern Canada to the tip of Argentina and nearly everywhere in between. Like humans, they've adapted to a variety of habitats, from the mountains to the prairies, the coastlines to the deserts, the forests to the canyons. In the United States we sometimes call them *buzzards* (although a buzzard is actually an Old World hawk); in Mexico they're often *aura cabecirroja* or simply *aura*; in parts of Uruguay, they're known as *jote cabeza colorada*; and in Ecuador, *gallinazo aura*.

Currently, six subspecies of turkey vulture are recognized by science. Around my home in West Virginia, the locals are the

partially migratory *Cathartes aura septentrionalis*; in the western United States and western Canada, most are *C. a. meridionalis*, which are complete migrants, traveling as far as northern South America in the fall. *C. a. aura* turkey vultures live in the American southwest through Central America, *C. a. ruficollis* in central South America, *C. a. jota* in the interior of South America's southern cone, and *C. a. falklandica* on the Falkland Islands and coastal southern South America. Whereas *meridionalis* and *septentrionalis* appear physically similar, the turkey vulture subspecies near and in the tropics are slightly smaller and sleeker, with fewer warty protuberances on their faces. One subspecies, *ruficollis*, has a large white spot on the back of its featherless head.

This wide distribution makes turkey vultures visible to nearly everyone in the Western Hemisphere. It's an equal-opportunity bird that unites people—rich and poor, rural and urban—across continents, countries, languages, and cultures.

▼ When I hold a wild turkey vulture—its back against my chest, wings restrained by my embrace, clawed feet in one hand and hooked head in the other—my heart races along with the bird's as it struggles to free its great black wings, to flap, to leave me on the ground where I belong. It tries to swivel its head and nip my fingers, my face, whatever it can reach. I smell the warm, musky odor of its feathers, and perhaps the sharp smell of vomit, a turkey vulture's only true defense. It parts the bone-colored hook of its beak and pants, its sharp pink tongue visible inside. The bird is desperate, and when I look into its stone-colored eyes, something looks back at me. In a turkey vulture's eyes I can see a mind at work, a mind that's trying to figure things out, figure *me* out, and determine the best way to escape. Of course, the restrained bird won't escape, and not because of my skills as a vulture wrangler,

but because most turkey vultures I've held have been injured. Some injured gravely, some dying. Some riddled with shotgun pellets, others weakened by toxic lead in their bloodstreams. Broken wings, broken legs, broken backs, wounds filled with maggots, head trauma. At our nonprofit, the Avian Conservation Center of Appalachia (ACCA), we care for all species of injured wild birds, and while we try our best with every patient, I admit that I try a little harder with the turkey vultures.

The ACCA treats more than 400 wild birds every year, including iconic bald eagles, charismatic peregrine falcons, always-dramatic loons, tiny chickadees and wrens, and everything in between. My husband Jesse and I, along with our fellow bird-brained friends Todd and Erin Katzner, decided to found the organization because of a need for an avian conservation center in our region. The ACCA is located near Morgantown, West Virginia, fewer than ten miles from the Mason-Dixon line and the Pennsylvania border, and fewer than thirty miles from the western edge of Maryland. We regularly receive injured birds from all three states; most come to us via members of the public, although we work with state and federal agencies to receive birds, too. Our cadre of the best volunteers anywhere assists with advanced surgeries, conducts educational programs, writes grants, administers medications, constructs enclosures, prepares diets, scrapes bird excrement, sweeps floors, and more.

Jesse, a veterinarian, specializes in avian medicine. Every patient admitted to the ACCA gets an immediate, comprehensive examination, including radiographs and ultrasonography when necessary. Birds are rehydrated and treated with appropriate medications, which might include antibiotics, antifungals, pain medicine, or chelation therapy for lead toxicity. An added convenience is that the animal hospital where Jesse practices is open twenty-four hours a day, seven days a week,

so injured birds can be dropped off soon after they're found. In addition to rehabilitation, the ACCA is dedicated to outreach and research. Wildlife biologist Todd Katzner oversees graduate students working on avian-related projects, and his own important research focuses on a variety of raptor species, especially golden eagles. Erin Katzner and I both have previous experience in environmental education and bird training; Erin is one of the few people to hold the prestigious title of Certified Professional Bird Trainer—Knowledge Assessed, given by the International Avian Trainers Certification Board. She's worked with birds of many species at several zoos and wildlife centers.

While many birds hold special places in my heart, turkey vultures affect me the most. One of my first experiences with a wild turkey vulture had come several years before we'd founded the ACCA. I'd stood, transfixed, just outside the door of an enclosure at a small wildlife center where I'd been volunteering. Late-summer sunshine beamed through poplar and oak branches to dapple the ground around me. A big brown-black bird stood on the dirt floor of the narrow enclosure, all the way in the back, as far away from me as possible. We watched each other, my wide blue eyes searching the bird's beady stone-colored ones. It was love at first sight. Well, perhaps love mixed with pity, and certainly unrequited. The vulture stood almost directly under a shoulder-high T-shaped perch made of a four-by-four driven into the clay with a rope-wrapped two-by-four attached sloppily across its top. Another perch of similar construction stood at the opposite end of the narrow pen. As I moved to unlatch the door to get a closer look at the bird, it hunched down, peered up at the perch, and unfurled its great black wings. It flapped them weakly but didn't make it and crashed awkwardly back to the ground.

I unlatched the door and the turkey vulture began to run back and forth along the far wall of the enclosure. Each time it met

the mesh dividers between its pen and the ones on either side, it would lift a flat, chicken-like foot and push against the mesh, almost as if testing the barrier's integrity. I backed out of the enclosure and re-latched the door, and although the bird stopped the frantic back-and-forth movement, it never took its small eyes off me. It parted its hooked beak and appeared to pant in the afternoon heat. What a magnificent, intelligent, tragic creature, I'd thought, and promptly fell in love. (And then I rearranged the perches so the poor bird could get off the ground.)

I'm not sure why many of us have a negative impression of turkey vultures; perhaps it's their naked heads, or perhaps we find their diet of the dead and desiccated unappealing. They lack the proud scream of a red-tailed hawk, and they certainly don't sing a sweet song like a wood thrush or meadowlark; because they possess a uniquely modified syrinx (the organ birds use to produce sound) turkey vultures tend to only grunt and hiss. Instead of defending themselves with talons or teeth, they vomit in the general direction of a threat, certainly not the most charming attribute. Above all, I think we dislike turkey vultures because they remind us of our own mortality, and that life will continue after we die—and that, as with all animals, something will be waiting to consume our bodies.

▼ In North America, turkey vultures and black vultures are plentiful and perhaps increasing in population; however, other vultures in other parts of the world are not so fortunate. According to raptor expert Dr. Keith Bildstein, Sarkis Acopian Director of Conservation Science at Pennsylvania's Hawk Mountain Sanctuary, on a global scale vultures are more likely to be threatened than other types of raptors; in fact, turkey and black vultures are two of only a few examples of successful vultures in the world today. BirdLife International lists fifteen of the planet's twenty-three vulture species (or 65 per-

cent) as species of conservation concern; five of these are critically endangered, and several others may be “uplisted” soon. In southeast Asia, the white-rumped vulture, Indian vulture, and slender-billed vulture suffered catastrophic population declines, starting in the mid-1990s; by 2013, at least 97 percent of the individuals in these species had died. The news is only slightly better for vultures in Africa, where seven of the continent’s eleven species are vulnerable, threatened, or endangered. In North America, the California condor is critically endangered; as of this writing, fewer than 500 exist in captivity and the wild.

Turkey vultures counter this trend, but despite their abundance and visibility, until recently few researchers had studied them. Biologists at Hawk Mountain began studying turkey vulture migration patterns in 2002, and in the process learned a great deal about their natural history. This information could help us understand and conserve other species of vultures worldwide; the turkey vulture could become a “spokesbird” for vultures everywhere.

While it isn’t fully understood why turkey vulture numbers in North America seem to be increasing, several theories are plausible. “One suspect,” Keith Bildstein told me, “is an increasing density of roadways. These birds are obviously feeding on roadkill. Another is an increased deer population; our birds are certainly using gut piles during hunting season. There’s a trade-off there—and a trade-off with the roads, too.” Like other avian scavengers, turkey vultures can suffer from lead toxicity after inadvertently ingesting spent ammunition in offal. Collisions with vehicles are also frequent because turkey vultures can be somewhat slow to take off when feeding on a carcass.

Biologists and birders also have noticed that in addition to an increase in total numbers, turkey vultures and American

black vultures seem to be pushing farther north than previously documented. Climate change could be, at least in part, the cause of this range expansion, as could an increase in large cities, which create urban “heat islands,” allowing vultures (and carrion) to stay warm in colder temperatures. “Also,” Keith added, “something that kind of gets lost historically, is that back in the day turkey and black vulture populations were substantially held in check in the southeastern United States.” In the early part of the twentieth century, it’s estimated that Texas ranchers killed more than 100,000 black and turkey vultures. They blamed the birds for spreading disease, while in fact the opposite is true; a turkey vulture’s strong stomach acid and gut flora can neutralize dangerous pathogens sometimes found in carrion, such as anthrax, botulism toxin, cholera, and salmonella. Both black and turkey vultures were eventually granted protection under the federal Migratory Bird Treaty Act, making it a crime to intentionally shoot, trap, poison, or harass them. When we stopped killing so many vultures in the Southeast, Keith told me, healthy populations started expanding northward.

In the United States we often take our plentiful vultures for granted, and the birds go unnoticed and unappreciated. Turkey vultures have an undeserved reputation as dirty, sneaky sorts. Many people find them ugly, disgusting, or worse, and they have even been accused of killing calves and lambs, although no documented accounts of this exist. It’s likely that they are attracted to livestock giving birth—both turkey vultures and black vultures have been known to eat nutrient-rich placentas. The scientific literature on turkey vultures goes to great lengths to document any instances of them taking live prey; these instances are very few and far between, and most involve “unnatural situations,” such as birds caught in traps or birds in captivity. The only animals ever documented to be

killed by turkey vultures include a ruffed grouse chick, small fish, turtle hatchlings, and nestling or sickly birds. If it's available (and it usually is) turkey vultures prefer carrion, and they play an important role in the health of an ecosystem. As scavengers they decontaminate the landscape, removing dead animals that might otherwise contribute to the spread of disease. Unlike some mammalian scavengers, vultures do not carry rabies or distemper; they are perfectly adapted to cleanse, purify, and renew.

Even though they are peaceable, harmless, and helpful, turkey vultures are still persecuted by humans; each year the ACCA admits several with human-inflicted injuries. I remember one of our vulture patients, emaciated and suffering, that was euthanized on arrival because of a rifle shot that nearly severed its left wing. Another's wings and torso were peppered with shotgun pellets, the small projectiles lodging in muscle and bone. While perhaps unintentional, another had been caught in a leg-hold trap meant for a small mammal. Even turkey vultures admitted for vehicle-related injuries sometimes have old, healed-over wounds concealing shotgun pellets under the skin.

In addition to intentional injuries caused by human activity, vultures sometimes find themselves unwanted by their human neighbors. Especially in the South, and especially in the winter, large flocks of turkey and black vultures will often roost together—usually in large pine trees but sometimes on the warm roofs of houses. Perhaps because of their geographic location or other favorable habitat features, vultures often congregate in quaint, classy, brick-and-ivy Virginia towns, such as Leesburg, where some of the non-vulture residents don't welcome them. Occasionally, the USDA's Animal and Plant Health Inspection Service (APHIS) is called in to disperse the roosts; often this involves fireworks and noisemakers, but sometimes

it involves shooting several vultures, despite the role they play in the health of an ecosystem, and despite protection by federal law. In many parts of the world, environmental health as well as public health suffers because of a lack of vultures, while here, sadly, we sometimes overlook their importance or seek to remove them from our presence.

▼ I fell in love again as soon as the volunteer lifted the bird from the cardboard box. The turkey vulture nipped weakly at her fingers, but its wings and legs drooped. Emaciated, exhausted, and certainly in pain, the injured creature seemed to give itself over to our prodding. Jesse wound his hair into a loose bun, swung the bright light over the treatment table, and switched it on as the volunteer arranged the vulture on its side on the table. I watched, chewing on my lower lip, hoping that we'd be able to save this bird, that one day it would fly free again.

But that hope soon faded. Jesse took the vulture's hooked head in his hand and leaned closer. "Poor guy's got a sunken eye," he said. "It looks like it's an older injury." Jesse continued the examination, running his hands along each of the bird's wings, its torso, and its legs. He listened to its heart and lungs, looked into its mouth, and then whisked it into the lead-lined room to take radiographs. When Jesse emerged a few minutes later, hugging the vulture against his torso, he shook his head. "Old, already-healed fractures in the shoulder joint, bruising along the inside of the humerus, and soft-tissue injuries to its leg. All on the left side. That's also the side with the sunken eye. I wonder if he got creamed by a car because he couldn't see it. We can fix the leg, but there's not much we can do for the shoulder." Jesse paused and looked at me; it was a familiar look, the one that came moments before he recommended euthanasia.

I swallowed. “Maybe he’ll be a good candidate for education? He seems calm.”

Jesse shrugged. “He could be calm because he’s dying.”

The vulture’s head, pale due to dehydration, hung weakly. It seemed to have given up. I swallowed again. “I think we should give this guy a chance.”

Jesse looked at me and nodded. “Well, OK. Let’s try to put him back together.”

The vulture received a large syringe of subcutaneous fluids and an injection of pain medication. His injured leg and shoulder were bound with pink elastic wrap covered in purple hearts. “All vultures love pink,” someone snickered. Ten minutes later, the bird was standing on a special rubber mat in a clean enclosure. We fed him small amounts at first to give his gastrointestinal tract a chance to get moving again; I cut a mouse into tiny pieces and placed the pile on the mat in front of the vulture. I’d barely moved my hand away before the bird lunged for the mouse bits, gulping the entire pile in seconds. And then he turned his good eye toward me. I smiled. He shifted slightly on his big chicken-like feet and lowered his head to the mat again, delicately nipping at the spot where the mouse bits had been just in case he’d missed a morsel.

Even after closely observing a turkey vulture, it’s difficult to know how to classify them taxonomically. They share some characteristics of hawks and eagles—hooked beak, diet of meat, excellent eyesight—but while traditionally grouped with birds of prey, turkey vultures lack the true talons of other raptors. Scientists, too, have struggled to categorize them. Genetic studies in the mid-1990s suggested that New World vultures—California and Andean condors, and black, king, yellow-headed, and turkey vultures—shared a common ancestor with storks, not hawks or eagles, and in 1998 the American Ornithologists Union (AOU) moved the vultures’ family

Cathartidae from the order Falconiformes (hawks, eagles, and falcons) to Ciconiiformes (storks). These genetic conclusions were challenged, however, and in 2007 the AOU moved Cathartidae back to Falconiformes, but with an asterisk to indicate “uncertainty as to exact placement.” The AOU determined that the 1998 move to Ciconiiformes was “in error, although the true relationships and thus placement of the family are still not fully resolved.” Then, in 2010, the AOU created a new order, Accipitriformes, and moved New World vultures there, along with hawks and eagles. (The order Falconiformes now contains only falcons and caracaras.) While the debate about the origins of New World vultures continues, Old World vultures *do* share an ancestor with hawks and eagles. And now many folks lump all vultures—New and Old World—with raptors again, often making the distinction between “predatory raptors” and “scavenging raptors.”

New World and Old World vultures are an excellent example of convergent evolution, which *ScienceDaily* defines as “the process whereby organisms not closely related (not monophyletic), independently evolve similar traits as a result of having to adapt to similar environments or ecological niches.” Most Old and New World vulture species have featherless heads and long necks; this allows the birds to plunge their faces into rotting carcasses without getting bits stuck to their feathers. Both Old and New World vultures share similar foot structure, as well—flat and chicken-like, better adapted to walking and running than to grasping. Both groups eat primarily carrion, though some species will attack weak or dying animals.

Despite the many similarities between vulture species worldwide, there is also diversity. Although most of the world’s vultures find food strictly by eyesight—soaring high over the landscape, searching the ground for dead animals—three species in the New World’s *Cathartes* genus (the turkey vulture and

the greater and lesser yellow-headed vultures) also use a keen sense of smell to help them locate food, their wide, perforated nostrils positioned prominently above their beaks. Several Old World species have evolved to eat specialized diets; Africa's palm nut vulture, for example, often lives near water and primarily eats oil palm fruit. The bearded vulture, found in many locales in Europe, Asia, and Africa, subsists on a diet of bones; it also intentionally rubs soil rich in iron oxide on its feathers. Also known as the lammergeier or sometimes the ossifrage, the bearded vulture was once blamed for killing livestock, although this is untrue. Bearded vultures will fly high into the sky while carrying bones in their beaks, and then drop the bones onto rocks below; once broken, the bird eats the nutrient-rich bone marrow within. A related species, the almost all-white Egyptian vulture, uses rocks to break its food, too; the Egyptian vulture, however, carries smallish rocks and smashes them against large eggs to break their shells, and the bird then eats the contents.

In the New World, the *Cathartes* vultures are similar, but other species are quite variable. The king vulture, found in Central and South America, sports a bulbous and brilliant orange, red, and yellow face with tinges of purple and blue. Another bulbous-faced species, the Andean condor, is the largest flying land bird. American black vultures are one of the most social vulture species, but in general vultures worldwide are often gregarious and intelligent, and they tend to reproduce slowly (only one or two chicks a year). They mature slowly, too, and live relatively long lives; turkey vultures in the wild may live fifteen years, while in captivity they can live into their thirties.

I stared into our new patient's good eye and imagined us spending the next thirty years together. The future was still uncertain, of course; as the bird's health improved, its personality

V could change or perhaps return to its “true” temperament.
U Now, the vulture seemed complacent and satisfied, not ag-
L gressive or terrified. True, the pain meds could have mellowed
T its mood, and its spunk was dampened by physical weakness.
U Permanent captivity would be a cruel fate for any fearful, ag-
R gressive, or stressed animal; we would have to wait. I backed
E away from the enclosure and allowed my new friend to rest.

▼ What follows is a personal examination of the lives of North American turkey vultures; this book tracks the stages of a vulture’s life, beginning in early spring and progressing through summer, autumn, and winter. We will end where we began, with the cycle starting over again in early spring. Through the process of researching this book, I learned a great deal about these amazing birds. I also learned that science still has a lot to discover about turkey vultures—indeed, about vultures in general. However, biologists are uncovering more and more information every day; it’s an exciting time to be a vulture lover. My hope is that readers of this book will come away with a new understanding, a new appreciation, of this extraordinary bird—a bird we share with almost everyone else across the Americas.