The Acknowledgment of Birds

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The first time I heard the family of falcons that live on the top of North Quad, I thought I was imagining it. I was raised on Chris and Martin Kratt's PBS kids shows *Zoboomafoo* and *Wild Kratts*, so even though it had been a decade since I'd last heard it, the call of the world's fastest animal was ingrained deep in my subconscious. That first time I heard the screechy, wailing call, walking home from a Wednesday evening class, I knew it was a peregrine falcon immediately. Then, confused as to how that identification had surfaced with such certainty, I searched for a recording of peregrine falcon calls on my phone. I had in fact gotten it right: that was a peregrine falcon, right in the middle of Ann Arbor.

Peregrine falcons are fairly inconspicuous medium-sized birds of prey with a grayish black head and back and white and gray "checkered" belly and underwings. You have to be close to see the bright yellow of their legs, base of the beak, and rings around their eyes. As for their fastest animal status, they are not technically the fastest self-powered animal but gain their speed with a little help from gravity: peregrine falcons have been estimated to reach a terminal (maximum) velocity upwards of 200 mph when diving to hunt smaller birds. Many of the famous animals repeatedly featured in childrens' literature and nature shows are endangered or exotic, but not peregrine falcons: this species of bird is found on every continent except for Antarctica, and number almost 140,000 worldwide. They live in deserts, tundras, shoreline environments… and cities.

Peregrine falcons aren't particularly rare, but they seem like they should be, because what was something as cool as the world's fastest animal doing atop a monolith of brick and concrete like North Quad? Yet there they lived, and every few weeks that semester there would be a clear, bluebird day, and as I walked to or from my English class in North Quad I would hear them. Each time I marveled at the existence of something so special in a place so mundane. Each time I

savored the sound, sending silent words of appreciation towards the birds that nobody else around me seemed to notice. I wondered how nobody in my biology or North Quad classes had ever mentioned the falcons, so I just assumed I was the only one who knew about them. They became to me a treasured secret, a living bit of campus lore.

I have to confess that I actively avoided birds and birding before this year. I take pride in originality and birding always seemed too mainstream for me. Birds were everywhere, easy to see and hear and bribe onto your back porch with feeders. I wanted to pursue organisms that aren't so easily seen, like frogs and insects. Perhaps this is why I did find enjoyment in watching the fierce but shy hummingbirds we attracted to my grandparents' cottage with bright red and yellow feeders of sugar water each summer. Whenever my family was sitting in the kitchen and someone spotted a hummingbird outside of the big back windows, we would all freeze and turn to watch. You couldn't move towards the window because the hummingbird would notice the movement and fly away. I recall holding my breath to keep still, transfixed as the emerald colored birds sipped sugar water and dive bombed each other. They were better entertainment than any television family drama, and Ferdinand and Fiona, as we named them, were a frequent topic of summertime dinner conversation. Even though I was generally opposed to birding, I couldn't ignore the sense of awe and honor I felt each time I was in the presence of one of those skittery birds.

There was one other Michigan bird species that I felt was worth the hype, and that was the trumpeter swan. Swans, with their bright white feathers and intimidating size are one of the best avian examples of charismatic megafauna - animals with large body size and symbolic value or widespread popular appeal. (Don't think swans are intimidating? Imagine 35 pounds of pure muscle flying directly at your head. Don't mess with swans.) When I was eleven years old, I

started riding horses at a barn a little ways outside of Ann Arbor To get there from my house, we'd drive through the intersection at Scio Church and Parker Rd, which is practically a four-way stop built in the middle of a pond. The pond is teeming with waterfowl all year, including several species of duck and merganser, canada geese, sandhill cranes, and blue herons. But the stars of the show even today are the pair of Trumpeter swans that nest in the ponds and raise a brood of chicks each year. Trumpeter swans are native to Michigan, as well as much of the northwestern US and most of Canada, and their pure black beaks and slightly larger size distinguish them from their invasive counterparts, the orange-billed, mute swans native to Eurasia. Hunting and habitat loss in the early 20th century pushed the sensitive trumpeters to near extinction, and despite conservation efforts to repopulate areas with trumpeters, the niches left behind were largely filled with less-particular orange-billed counterparts. Swans are one of the first examples of invasive species I remember learning about, and certainly the first one where I could count the number of orange bills whenever we passed a pond and see the stark difference in abundance of the two species in real time. Like the flighty hummingbirds, trumpeters became something special and rare, an honor worthy of stopping the car to behold. The plight of the trumpeters appealed to my developing sense of order and justice back then, and even today knowing that invasive individuals are not motivated by evil, I still scan for black beaks whenever I pass a pond, and can't help but turn away and cringe at the sight of orange ones.

Trumpeter swans mate for life, and for a few years we watched the pair at Scio Church and Parker raise cygnets that grew from fluffy blobs into elegant grey adolescents, and then into smaller versions of their snow-white parents. As we drove to and from the barn, my mom often worried about the swans being so close to the road - they liked to sleep just a few feet from the

edge of the pavement, which we agreed was rather precarious placement for a family of endangered birds.

Like the peregrine falcons, I felt like the swans were my and my mom's "thing" and thought nobody else really knew or cared about them. When we drove by, it was my job to look out for swans while she kept her eyes on the road, and I would give a report: of how many swans, of how big the babies were, of what they were doing. Some years I learned where their nest mounds were hidden, and when I couldn't readily see a swan, I'd scan the reeds to catch a glimpse of white on the nest through the cattails.

I still remember the outrage and grief one night at dinner in August 2016, several years after we'd stopped riding at that original barn and regularly driving through the swan pond. My dad, scanning through MLive articles, announced that the entire family of five Scio Church and Parker trumpeters had been purposely run over by a motorist and killed. Suddenly, it seemed like all of Scio Township came out and revealed that they had been watching the swans as closely as my mom and I. The news article exploded with comments from outraged local swan lovers. The Ann Arbor police and the humane society launched an investigation into the perpetrator. Unbeknownst to any of us, it seemed, the swans were a beloved community feature. The majestic and stoic birds inspired us all - but it wasn't until they were gone that we realized how much everyone else also cared about the birds. To me, the crime of deliberately killing such a good, innocent thing as a trumpeter swan that was already raging against the injustice of invasive species was unthinkable. It was one of the first times I realized that it was possible that not everyone felt the same awe as I did at being in the presence of uncommon birds.

The community breathed a collective sigh of relief when, the following year, a new pair of trumpeter swans took up residence in the Scio Church and Parker ponds. Soon after, someone

put up signs at all sides of the intersection warning drivers of the presence of endangered swans. But I never stopped wondering why someone would hit a family of endangered swans, and informing anyone who will listen about the difference between trumpeter and mute swans. And marveling at the irony of the universe that these endangered swans still prefer a pond with a four-way stop right smack in the middle of it.

On a blustery cold but blue-skied Monday morning in January 2025, I climbed the last flight of narrow stairs and emerged at the top of Burton Tower to find myself face to face with a 12-ton bronze bell in my face. It had been cold down at the base of the tower, but at 120 feet up the top it was positively arctic, with wind gusts whipping through the tall open slits in the tower walls. I could barely remove my gloves to pull a pair of red plastic ear muffs out of a plastic tote on the ground and put them over my ears, the powerful chimes of the bells so close that each toll made my head ring and sent vibrations through my entire body, and pick up a photocopied sheet with fun facts about the carillon.

This moment was the fulfillment of something I'd wanted to do my entire four years of college: watch the bells of Charles Baird Carillon ring their daily lunchtime concert at the top of Burton Tower. Thirty-minute carillon recitals are performed noon every weekday that classes are in session, and though I'd had classes and obligations around noon in nearby buildings like the MLB, North Quad, the BSB, and the USB almost every one of my 8 semesters as a Michigan student, I'd never made the effort to skip lunch and climb ten flights of stairs up the bell chamber to watch the carillon bells ring. Today, though, it was Martin Luther King Jr. Day and the carillionists were performing a special recital of African American spirituals and gospel music.

With no classes to attend and a specially advertised recital going on so I could be pretty sure I wouldn't be alone at the top of the tower, I'd decided today was the day.

Of course, I'd chosen one of the coldest days of the year to stand at the top of a tower that was very much exposed to the elements. Bundled in my long coat, hood up and face tucked into a scarf, I picked my way around the ice-encrusted perimeter of the bell chamber as the notes of *We Shall Overcome* reverberated through my body and spilled out of the tower. I was so preoccupied with not slipping on the tower's snow-dusted floor that I almost missed the plaque on the wall: commemorating the peregrine falcons that nested in Burton Tower.

My first though was, *are there also falcons at the top of Burton Tower? How many falcons live in this city?* Then, mentally computing the proximity of Burton Tower and North Quad I reconsidered - maybe I'd had it wrong all along and the North Quad falcons actually live over here. Regardless, enough people knew about them to warrant an informational plaque? I scanned the cavernous ceiling above me for signs of the birds, but I couldn't see anything that resembled a nest. By this point I couldn't feel my toes and was pretty sure was going to get frostbite if I stayed up at the top of the tower for much longer, so I took a final look over the Diag, returned my ear muffs, and hurried down the stairs and out of the tower to get a warm drink in the Michigan League. And so began my urban bird-sleuthing adventure.

Peregrine falcons were just one of several birds of prey nearly driven to extinction by the widespread use of the pesticide dichlorodiphenyltrichloroethane, or DDT, in the United States starting in the 1940s. DDT was exceptionally effective at combating malaria and other insect-borne diseases by killing disease-carrying insects like mosquitoes. It also was effective for insect control both on commercial farms and in family gardens.

Unfortunately, DDT and the byproducts produced when animals digested it (dichlorobis (dichlorophenyl) ethylene, or DDE) were particularly resistant to degradation and quickly became problematic as a result of biomagnification. Biomagnification is a process where a toxin increases in concentration in organisms as you move to higher levels of the food chain. Here's how: toxins in the environment are taken up by small organisms at the bottom of the food chain, like insects and plankton. spraying a marsh to control mosquitoes will cause trace amounts of toxin to accumulate in the cells of microscopic aquatic organisms, the plankton, in the marsh. When the next level of the food chain, filter-feeders like clams and small fish, feed on these insects and plankton, they take in the toxin as well as food. Because these compounds still can't be digested by the clams and fish, they accumulate within these animals every time they feed, toxin becoming more concentrated than it was at the insect/plankton level. This process continues up every level of the food chain, meaning that higher-level predators such as birds and marine mammals accumulate greater (and more detrimental) amounts of toxins than animals lower on the food chain.

DDT was particularly good at accumulating in the fat reserves of birds of prey, and birds poisoned with DDT were weak and hatched eggs with extremely thin shells that broke easily or never hatched at all. I remembered learning about DDT's impact on bald eagles in high school, and marveling at the pair of bald eagles who nested in a tree down the road from my grandparents' cottage as I was growing up. I knew they were rare birds in the area, but had never quite realized that their scarcity was probably a lingering legacy of DDT. DDT was banned in most countries in 1972, but by then much of the damage to raptors like bald eagles and perigrines had already been done: by 1964 virtually all peregrine falcons in the upper midwestern U.S. were already gone.

In 1973, the same year that the Endangered Species Act was passed and Peregrine falcons placed on the endangered species list, Cornell ornithologists started a captive breeding and release program for peregrine falcons, and the locations chosen for their release would end up altering the future of the Peregrine falcon in the United States. In their indigenous habitat, peregrine falcons nest on steep cliffs. However, immature falcons are highly susceptible to predation by owls, raccoons, and foxes, so in order to give the birds an advantage, researchers devised a plan to release birds in urban areas beginning in 1978. Captive-bred peregrine falcons were released in more than a dozen U.S. cities around the country, and by 1993, nearly three quarters of the 43 nesting pairs in the midwest were located in urban environments.

As more falcons were released and wild falcons began to reproduce on their own, peregrine falcons made quite a successful comeback in urban areas, building nests on such famous buildings as the Custom House in Boston, the Riverside Church in New York City, and the Oakland Bay Bridge in San Francisco. Peregrine falcons are believed to thrive in large cities because of the abundance of small urban wildlife (pigeons, starlings, and blue jays) and the lack of competition from other predators. Though they mainly eat other birds, peregrines have been known to also prey on rats and ground squirrels However, peregrines in urban settings face one big challenge: the birds don't build nests, so without a box or other modification, eggs and fledglings left on skyscraper ledges often simply roll over the edge and fall to the ground.

This is exactly what happened when a pair of Peregrine falcons arrived and laid eggs in Burton Tower in 2006. Though they were removed from the United States' endangered species list in 1999, peregrine falcons were still considered an endangered species in the state of Michigan. Until that point, there had been no documented cases of peregrines nesting in Ann Arbor. A Michigan Daily article noted that the falcons were "quickly becoming the most

talked-about birds in Ann Arbor," and their arrival actually led to daily carillion music at Burton Tower being stopped because one of the Washtenaw Audubon Society's members "observed that the hourly striking of the bells caused the birds to fly away." Eventually it was determined that the bell-ringing was not detrimental to the birds and the carillon music continued, but the tower was still a less-than-ideal nesting site. Storm water would frequently disturb the site, and eggs were sometimes found at the base of Burton Tower, fallen from their nest at the top.

When Burton Tower was renovated in 2010, DNR officials and Peregrine falcon aficionados collaborated to install nesting boxes on top of the hospital and North Quad to lure the birds away from the tower. The effort worked, with the first clutch of chicks hatching in the hospital nest box in 2011. That nest box was removed in 2017 because of hospital construction, leaving North Quad's box the only remaining nest box on campus. A pair of peregrines have raised chicks in the North Quad box every year since 2017. (Falcons are quite territorial, so another box is not needed because it is highly unlikely that another pair would nest in the vicinity of the current pair.)

The falcons that I'd grown so fond of seeing on my way to and from classes had such a bigger history than I'd realized, and even if nobody around campus talked about them today, the rare birds were far from unnoticed. As I dove into articles are MLive and the Michigan Daily about the first sightings of the falcons and the collective excitement and speculation in the weeks before anybody could know for sure whether they were breeding and here to stay, the concern in the statement from the associate dean of the School of Music, Theater, and Dance who made the call to stop the chimes at Burton Tower to prevent harming the birds, and the thousands of entries received in a naming contest for the first clutch of North Quad chicks, it became clear that the falcons brought people from across Ann Arbor together, just like the trumpeter swans had in Scio

Township. (The winners of the contest, by the way, named the chicks Betsy, Bursley, Markley, and Mojo after four dorms on campus.) Today, nearly twenty years after the first pair arrived in the city, these somewhat uncommon birds were still inspiring people like me to feel awed by the nature in their backyards, and connect with people who were doing the same.

The peregrines, meanwhile, go about their days without a care for us humans and our complications. The most recent news on the birds I could find was a 2019 article in the fall edition of LSA Magazine about a new collection in the University of Michigan Museum of Zoology of discarded prey from the North Quad falcons - mostly heads, beaks, feet, wings, and other inedible parts - being collected to study urban raptor diets.

It reminded me how despite them being there, most of our encounters with birds are not with raptors but with little sparrows and robins and the like, tufts of drab feather bopping around branches and picking at bird feeders.

Larger birds are usually uninterested in humans (and aren't we lucky for that - they are direct ancestors of dinosaurs after all), and many have small populations due to habitat loss and lingering impacts of DDT. Maybe it's just the science-y circles that I run in, but I know few people who have encountered a predatory bird and not been completely awed by the experience.

Case in point: last winter, I found myself walking out of the lab after a morning of work as a research work to find a small crowd gathered around a triangle of grass bordered by sidewalk, and edged my way in to behold a hefty 2-foot tall red-tailed hawk shredding a diag squirrel. I recognized a few faces in the crowd as professors of classmates from my biology classes, but there were also lots of passing students who had just been attracted to the bird on their way to class. I was struck by how calm and respectful the audience was, speaking in

hushed, reverent tones or just silently watching. I saw professors whom I knew studied things as different from predator-prey interactions as gut microbiota and transcriptase-binding factors, just as excited to watch this hawk eat its lunch as the rest of us. I was transfixed - this hawk with wings could fly anywhere on campus, and yet it was here letting an audience gather. It was an honor to be in the presence of something wild and from the looks on the faces around me, I wasn't alone in realizing that honor. As I begrudgingly dragged myself away from the scene twenty minutes later, the hawk just kept on shredding the squirrel, not a care in the world for me.

In fall 2024, I decided to spend a semester studying ecology in New Zealand. I wanted to experience a new landscape and new ecosystems, but I wasn't quite prepared for what that would look like. I honestly think I expected more lizards, but what I learned instead was that New Zealand is famous for being a land of birds. There are no native land mammals on the islands besides two species of bat, therefore birds have evolved to fill many of the ecological roles, or "niches", that mammals fill in the U.S., running through the forest along branches like squirrels or rooting for food like badgers and pigs.

My program attracted a couple of bird lovers whose enthusiasm for birding was contagious, and by the end of our three months, the entire 23-person class had developed a birding *giss* (pronounces "jizz", an acronym for "General Impression of Size and Shape" of birds, meaning you can recognize a bird's family or genus - if not species - just by a quick glance of its size, wing shape, beak shape, etc.). We sat around dinner tables perusing bird guides, we each kept and methodically updated lists of species we'd seen, and started to identify the "holy grail" birds that we hoped to find before leaving the country.

In New Zealand, it was easy to be interested in the birds because even the birds I saw every day, the ones that sang in the garden outside of my cabin and flitted through the pastures across the street, were new to me. There were unfamiliar birds everywhere, and I wanted to know them all, from the timid oystercatchers that screeched warning calls and launched into the air when anyone approached them on the beach to the friendly fantails that came to hop at my feet when we stopped during hikes, to the tui that woke me each morning with their mechanical-sounding clicks and whistles. I became enamored with kea, the alpine parrots that seemed interested in me as I was in them. In fact, a lot of the New Zealand birds were downright fascinated with me and would carefully but confidently approach if I took a moment to be still and watch them. Even more than the honor of being in the presence of a rare bird was this - having a wild creature devote a few seconds or minutes of full, curious attention to you.

Returning from the high summer of December in New Zealand to the bleak winter of Michigan in January was difficult to say the least. On the third week of classes, I walked out of North Quad after my final class of the day and heard a faint, familiar call. I crossed the street, and in the darkening evening, and turned my eyes toward the tower in hope of glimpsing the source of that call. I could not see it, but I stood there a minute longer, earning confused glances from passers by as my eyes teared up and I thought of all the birds I'd found and people I'd shared them with in New Zealand. For the first time in a long time, there was nobody around me to share that rush of finding a new bird with. And though I'd been feeling it for weeks now, I finally was able to admit that I had succumbed to the birding bug.

I swear I saw more birds in the next three months back home than in my entire life combined. There were the usual robins and canada geese, but also a stately pileated woodpecker in Eberwhite Woods with a crest so bright red that it seemed to glow and little chickadees that, to

my delight, would play along like the New Zealand birds and tilt their tiny heads in appraisal of me when I stopped to observe them.

One weekend in March toward the end of Spring Break, I was home and went out on a run on the dirt roads behind my house. As I ran down the road alongside a dormant cornfield, I approached a little white farmhouse with a temporary pond outside where two sandhill cranes were browsing. If you've ever seen or heard of a sandhill crane, you'd probably agree that those things are the best proof that birds are dinosaurs. Their red-crested heads and "rattling" or "bugling" call make it easy to imagine them as pterodactyls.

As I approached the farmhouse, the cranes gave a rattling warning call, and then a small terrier came racing out of the house to bark at me. As it steadily approached closer and the cranes continued their calls, I was sure that either me or the dog would soon scare off the cranes before I got close enough to take a good look at them. Yet, as I came up to the pond, I was surprised to notice that the cranes were not only staying put, but had turned their calls toward the dog. The tiny dog kept yapping furiously, but the cranes were smart and confident to know that the dog was bluffing, and even if it did make a move for them, it could never get to the cranes before they took off. One of the cranes tilted its head towards me, as if to say *can you believe this thing?*

It felt like I could watch all these thoughts pass through the birds' minds, and I understood then what the seemingly-universal captivation with birds was all about. How lucky are we to share the world with free-willed, flying animals that deign to acknowledge us? Except, I suppose, for the peregrine falcons. They are still calling, just out of sight, from the top of North Quad.