

Middle East, falconry remains a gentlemen's sport. Though trained birds can legally be bred in captivity, enthusiasts believe the finest, strongest, and swiftest are those hatched from wild stock. A single bird—white gyrfalcons (*Falco rusticolus*) are among the rarest and most sought after—can bring as much as \$400,000 on the black market, easily enough to cover the cost of a chartered helicopter and a few minutes of cliff-hanging anxiety.

Lendrum's Arctic caper was just one episode in decades of ornitholarceny. He and his father were convicted of stealing thirty-four eggs of protected species from a national park in Zimbabwe; he was caught again in 2010 by customs agents at Birmingham Airport in the UK with fourteen fertilized peregrine (*Falco peregrinus*) eggs strapped to his body. Yet, despite frequent brushes with the law, he has persisted, popping up in remote locations from Wales to Patagonia with contraband, often just a step ahead of dogged protectors of the environment, personified in Hammer's retelling by UK wildlife officer Andy McWilliam.

Parallels with fictional thieves and their nemeses are clear, but unlike Raffles or Lupin, master jewel thieves who preyed on plutocrats, Lendrum, for all his bravado and occasional cleverness, stole from the poor—unsuspecting creatures threatened with extinction—to give to the idle rich. It's McWilliam and his colleagues who are the heroes in this dangerous game, but Hammer's well-told tale makes clear how difficult a task they have before them.

Popular natural history abounds in accounts of the biology and instinctive behavior of species taken as a whole, while anyone who has owned pets is aware of the distinctive personalities of individual animals. Ecologist Carl Safina's seminal new book covers a less well-documented middle ground, the behavior



Becoming Wild: How Animal Cultures Raise Families, Create Beauty, and Achieve Peace by Carl Safina, Henry Holt and Company, 2020; 384 pages; \$29.99

shared by small groups within a species that is taught by adults to their young—what we normally call “culture” when speaking of humans.

It's not hard to find examples of regional animal cultures in the research literature. Chimpanzees in West Africa crack nuts using stones as tools while chimpanzees in East Africa do not, although they have the same genes and similar resources. There are hundreds of studies that show bird songs of a given species vary not only from place to place but from time to time, along with convincing evidence that adult birds teach the current local Top 40 to their offspring. Scientists studying variations in the songs of indigo buntings have been able to identify the singer's childhood voice teacher. Cod fish in New England waters, a species whose undersea calls are surprisingly elaborate, are audibly distinguishable from conspecifics in Europe.

Safina spends most of his time in the field with researchers observing the local cultures of three quite different species: whales in the Caribbean, macaws in the Peruvian

Amazon, and chimpanzees in East Africa. The most remarkable, to this reader, are sperm whales, deep divers that spend only a small fraction of their time near the surface. Social animals, they rear their young and hunt their food in families centered on a few adult females and dependent young.

Researchers have learned to recognize members of each sperm whale family not just by markings on their tails, but by their voices—syncopated patterns of clicks, called “codas,” that they make when they are near the surface or about to dive. The whales use regularly spaced clicks as part of their echolocation, but codas, taught from one generation to the next, function as family signatures, providing a digital perimeter that keeps members of the same family together and members of different families apart in the otherwise un-demarcated vastness of the ocean.

By drawing attention to the importance of regional variation and acculturated behavior, Safina raises important issues for environmentalists. Whales, macaws, chimps, and other social animals are born to be wild, but genes alone do not make them so; “becoming wild,” he writes, “requires an education,” and an education requires a society large enough to sustain its unique character. Maintaining biodiversity, it follows, requires the preservation of diverse animal cultures as well as gene pools and habitat, a challenge that grows increasingly difficult on a rapidly developing planet. “The more humans fill the world,” he laments, “the more we empty it.”

Laurence A. Marschall is professor of physics, emeritus at Gettysburg College in Pennsylvania. He is the co-author, with Stephen P. Maran, of *Pluto Confidential: An Insider Account of the Ongoing Battles over the Status of Pluto and Galileo's New Universe: The Revolution in Our Understanding of the Cosmos* (both BenBella Books, 2009).