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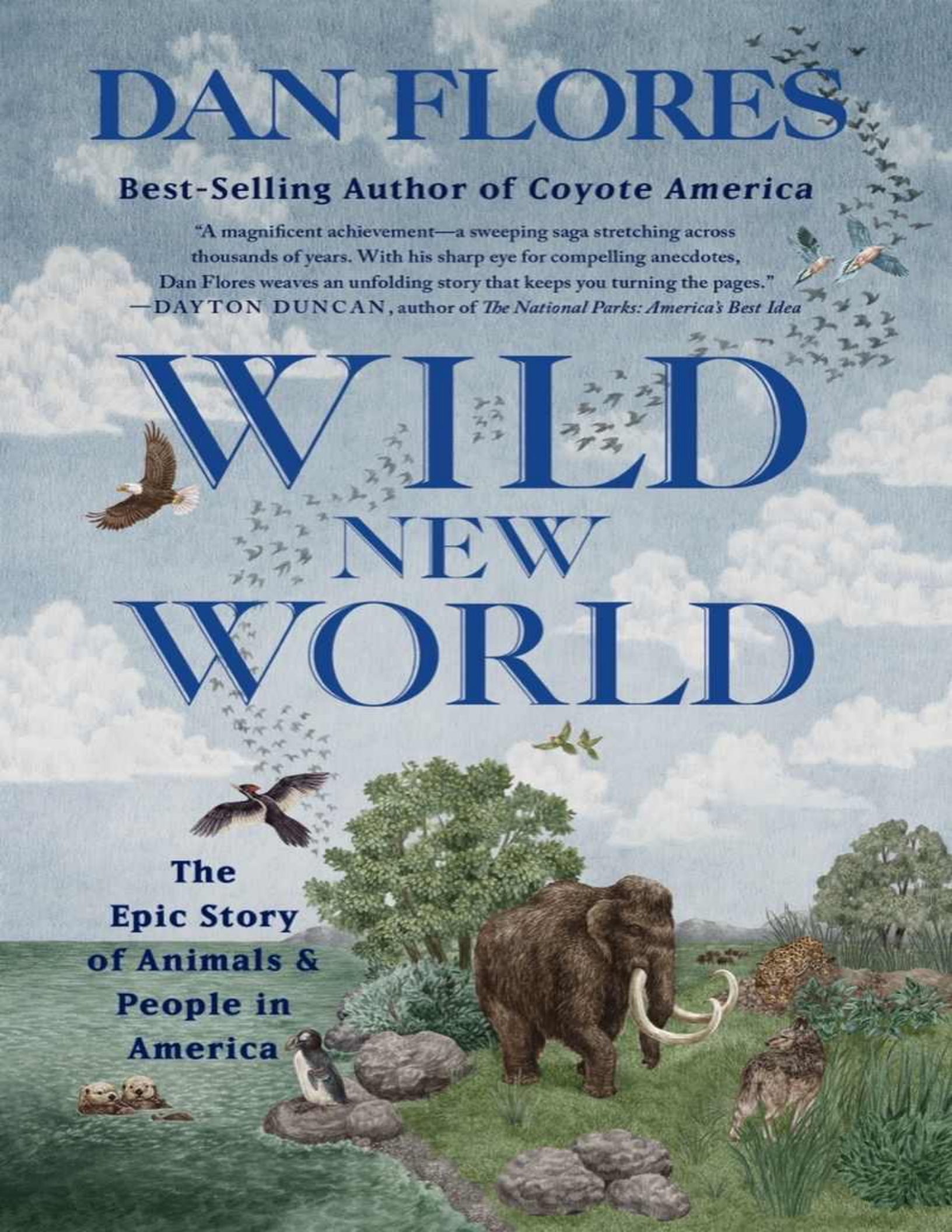
WILD NEW WORLD

The Epic Story of Animals & People in America



WILD
NEW
WORLD

THE EPIC STORY OF ANIMALS AND PEOPLE IN AMERICA

DAN FLORES

W. W. NORTON & COMPANY
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As always, for Sara

That which happens to men also happens to animals; and one thing happens to them both: as one dies so dies the other, for they share the same breath; and man has no preeminence above an animal: for all is vanity.

—ECCLESIASTES 3:19

There is grandeur in this view of life . . . whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning, endless
forms most beautiful and most wonderful have been, and are being, evolved.

—CHARLES DARWIN
On the Origin of Species

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INTRODUCTION

ALL IS VANITY

It was the lead-up to a presidential election, an unsettling late summer for many Americans since the hugely popular incumbent, Theodore Roosevelt, was declining to run for president a second time. The national gossip centered around whether portly William Howard Taft, who Roosevelt handpicked as his successor at Chicago's Republican convention that June of 1908, could possibly follow the charismatic advocate of the strenuous life. Somehow Taft seemed an unlikely replacement for the president "who does not shrink from danger, from hardship." So the news story out of the remote Southwest late that August initially seemed little more than a momentary distraction from politics, even if for some it might have been a reminder of the kind of heroic leadership the country was losing.

What the nation read in its newspapers was that on the night of August 27, a sixty-five-year-old telephone operator named Sally Rooke had gotten a call that an immense thunderstorm hovering over the Colorado-New Mexico border had spawned a flash flood in the Dry Cimarron River. With a debris-choked wall of water ripping straight for the town of Folsom, New Mexico, Rooke had spent a crucial half hour frantically calling every local number on her switchboard, saving scores of people. Then the flood had torn through Folsom and swept her away, along with half the town. Sally

Rooke's heroism became a national story. Telephone operators around the country contributed thousands of dimes for a memorial. But eventually the story faded from the papers. Folsom had imagined itself competing with Colorado Springs a hundred miles up the Rockies. But the town never recovered. Today Colorado Springs has half a million people. Folsom has eighty.

In the days immediately following the Dry Cimarron flood, an African American cowboy named George McJunkin was riding through grassy parkland a few hundred yards below the rimrock of a miles-long mesa that extended eastward from the Rocky Mountains, checking for ranch fencelines damaged by the flood. Suddenly McJunkin's horse braced, its hooves furrowing into foot-deep mud at the edge of a ragged scar floodwaters had cut into the slope below the mesa. McJunkin leaned out of his saddle to peer into a fresh chasm sliced into the brown shale. What he saw changed the story of America forever.

On a similar rainy August day in 2018, some thirty-five of us are stepping through the lush grass of that same slope as it angles up toward the rimrock of Johnson Mesa. We're following David Eck, a New Mexico State Land Office archaeologist with a long ponytail halfway down his back, who is leading us toward the very spot where George McJunkin's horse had pulled up 110 years ago. A century of floods and cattle grazing has changed the look of the place, which the flood erosion of 1908 had exposed as an ancient box canyon. The topography is now a grassy, shallow drain called Wild Horse Arroyo, and as we crowd around its edges it seems somehow too commonplace to be the scene of one of the continent's most significant historical finds. Nonetheless, this, in the flesh, is the legendary Folsom Archaeological Site. It's the place where the world found irrefutable proof that we humans had been intimately involved with American wild animals that long ago went extinct.

What McJunkin had done, about where we now stood talking, was to spot in the flood-gashed arroyo bones of an immense size he had never seen before. The exposed skeletal materials turned out to be from a herd of *Bison antiquus*, an extinct form of giant bison. But the bones themselves weren't the pièce de résistance. At the time, the

sciences of ethnology and archaeology in the United States were firm that American Indians had arrived in North America only a couple thousand years prior to the coming of Europeans. In the Old World, artifact hunters at France's La Madeleine rock shelter in 1864 had found a piece of ivory with the representation of a mammoth on it. That seemed certain evidence that in Europe humans once coexisted with extinct Pleistocene animals. As early as the 1870s, popular magazines in Europe were carrying illustrations of humans doing heroic battle against monsters like cave bears and mammoths.

George McJunkin on his horse. Courtesy Denver Museum of Nature & Science.

That such sites hadn't turned up in the United States fed into a bias going back to a famous debate in the late 1700s between the

French naturalist Comte de Buffon and Thomas Jefferson about whether America really was marginal to the global biological and human story. History has taken Jefferson's side in their argument, but Buffon turned out to be right about one aspect. In contrast to Jefferson, who thought extinction impossible, the French naturalist convinced the world that the strange creatures quarrymen were unearthing in Europe and America were species that had once roamed Earth but were now long vanished. Buffon likewise annoyed Jefferson by casting aspersions on American Indians' assumed lack of a significant history compared to that of Europe. In 1908 the flood that swept away Sally Rooke, and George McJunkin's discovery in the wake of it, were about to change forever the narrative that America was marginal to humanity's deep story.

Since Jefferson's time, scientists and ordinary citizens had been looking for something to refute Old World snobbery about America's past. In the wake of the La Madeleine discovery in France, the Smithsonian had mailed a circular asking military officers, missionaries, and Indian agents to be on the lookout for ancient fossil sites that might also show human antiquity. The stakes for demonstrating a deep human past in America were huge, and over time amateurs and scientists of various stripes advocated for at least two dozen sites, from Florida to New Jersey, from Idaho to California, as possible evidence humans had been in America in the Pleistocene. They thought they'd found it in 1882, when footprints embedded in stone at the Nevada State Prison seemed to show mammoth tracks overlapping human prints. That led to an excited *New York Times* headline: "Footprints of Monster Men!" Famous paleontologist Edward Drinker Cope thought the account convincing. But when University of California geologist Joseph Le Conte went to investigate, he concluded that the "monster man" tracks were in fact those of a giant ground sloth.

A classic late-summer thunderstorm was brewing up over Johnson Mesa as David Eck was explaining to us that until his death in 1922, George McJunkin proselytized about his find to anyone who would listen. Four years later, in 1926, the Black cowboy's plea to have a scientist look at his bone pit finally reached Jesse Figgins, director of

the Colorado Museum of Natural History in Denver. Something of an amateur at this game, Figgins was mostly interested in fossil bison that might make exhibits in his museum. His team began an excavation of the site in May of 1926 and quickly began finding the skeletal remains of bison of an enormous size. That was exciting enough. But in their second season of work, on August 29, 1927, Figgins's crew troweled up Big History paydirt.

As David Eck was gesturing to the dimensions of this near-century-year-old dig, in the pocket of my light Patagonia jacket my fingers closed over an object that I could fit into my palm. In shape it was oblate. Think a flattened football, but with an end bitten off. Beneath my fingers I could feel an irregular surface, made so by labor-intensive flaking to create a pointed blade that dwindled to a remarkably thin base. The delicacy of that base was a result of matching "flutes" skillfully popped from the flint on both sides. Actually, the object in my hand was not the real thing. It was a cast-bronze piece an artist friend once made for me. Today, residents of Folsom aver that McJunkin himself had found a real point of this kind. In that first summer of digging, Figgins's paleontologists had unearthed two of them in the loose dirt of the site. Eventually the Denver team would find eight of these stunning fluted points scattered among the bones. But it wasn't just the points that made Folsom what American Museum of Natural History scientist Henry Fairfield Osborn labeled "the greatest event in American discoveries."

In July of 1926 *Scientific American* had published an article by a famous Smithsonian anthropologist claiming that "there is no valid evidence that the Indian has long been in the New World." That view was consigned to the junkyard of scientific theory in August of 1927 when the second-season crew at Folsom flicked the dirt from the ribs of an extinct bison and were greeted by the sight of one of these fluted points solidly embedded to two-thirds its length in the bone. The bar for proof that humans were part of the American Pleistocene had always been an extinct animal preserving evidence that as a living creature it had been killed by human technology. Now, outside the tiny burg of Folsom, New Mexico, that bar was hurdled in a way no Smithsonian scientist could deny. Leaving their discovery exactly

as they found it, Figgins's team at once sent telegrams urging archaeologists to come and see. As it happened, a star witness was available. The most famous archaeologist in America was Alfred Kidder, who that summer was hosting the first of his Pecos Conferences on the southwestern past. Kidder came, looked, and declared to the world that America, too, had an antiquity.

How much of an antiquity was still in question because radiocarbon dating was yet three decades in the future. For his part, Figgins claimed the site was 400,000 years old. Eventually archaeology and paleontology would agree that on an October day a band of three dozen humans had driven into a box canyon, killed, and butchered thirty-two giant bison of the species *Bison antiquus* in the spot where I was now standing, and they had done this 12,450 years ago.

No one knows now what these ancient bison hunters called themselves or their weapons. Their beautiful fluted points were likely attached to darts thrown by atlatls, or spear-throwers. But not knowing much about these early Americans didn't prevent the scientists from naming both the points and the people Folsom, after the nearby town.

Bronze replica of a fluted Folsom point. Photograph by Dan Flores.

I worked the bronze replica in my pocket through my fingers like a card dealer in Vegas. It was exquisitely, almost deliciously crafted. It was also a replica of the kind of artful technology we humans have used to hunt and too often destroy much of the bestiary of the continent. But the Folsom era—there was indeed a "Folsom America"—was not the first time we humans had pursued distinctive American animals to their extinction, and it was very far from being the last. That long-term relationship between our species and wild animals in North America, which includes human-driven losses of other species in our deep history and staggeringly selfish and myopic destruction in our much more recent past, is an uncomfortable reveal about our species and our time on the planet. But our future demands we look it in the eye, look ourselves in the eye, and face this particular American story.

BECAUSE THEY LAY so far around the planet from humanity's origins in Africa, the Americas were the last continents we humans found in our grand explorations of planet Earth. North America was an unimaginable location that we initially struggled to find at all. Then, like some valuable heirloom we kept misplacing, America disappeared and receded from human knowledge again and again. The result was a lost continent that would function as a Wild New World more than once, and for more than one people. Folsom, it turned out, wasn't the American book of Genesis after all.

Six years after the Folsom discovery there was another dramatic revelation, and in an unlikely place. Out on the featureless sweeps of the country's middle, an ordinary gravel excavation near a tiny farming town named Clovis exposed the bones of long-extinct American elephants. Science and the reading public knew that America had harbored various kinds of giant elephants in the deep past. But unlike nineteenth-century mastodon finds in the East, this

time the skeletons were intermixed with the projectile points and tools of an unknown culture that was apparently even more ancient than the Folsom people. Across the next decade, as these larger (and also fluted) flint points began to show up all over America, from Alaska to Florida, from New England and the Midwest to the Southwest, scientists puzzled over who these elephant hunters might be. At a conference in Santa Fe in 1941 they decided to name them after the locale where their inhabitation of the continent first came to light.

So, we added "Clovis" to America's lengthening human-animal story. When radiocarbon dating finally assigned them a time frame, the elephant hunters turned out to have occupied the continent Europeans once called "the New World" many thousands of years before any European city was born. The animals these hunters killed and butchered with brightly striped flint tools across every region of America died more than thirteen thousand years before the United States existed. Hitherto unsuspected American beginnings like Folsom and Clovis were turning what everyone thought a brief history—European colonization leading to the creation of the United States—into an epic older than anyone's written history or any human memory.

Americans hearing about the continent's new human antiquity couldn't help feeling uneasy. The elephants and giant bison were gone. So were the camels and horses and giant cats, whose remains fossil hunters had been excavating since the 1850s from places like the asphalt pools in downtown Los Angeles. Human weaponry and tools were now turning up in clear association with many of these extinct animals. That hardly seemed a coincidence in the 1920s and 1930s, decades when a remarkable number of species from the modern United States were also vanishing, one after another. Americans of the time barely recognized mammoths or camels as part of the continent's bestiary, but there were people still alive in the 1920s who had seen with their own eyes millions of bison and billions of passenger pigeons. As with camels and elephants, though, by the 1920s those scenes were no longer a part of America. Just a few years before, the last living individual of the most numerous bird

species on Earth had died in her cage at the Cincinnati Zoo. Americans celebrated in the early 1930s when an organization called the American Bison Society announced that the buffalo, the most iconic of all our mammals, would not go extinct after all. But it was a pyrrhic victory. Bison lived, rescued on the brink of their demise, but not to return to the wild. Instead they were enclosed in preserves so curious citizens could marvel and wonder what had happened to an animal that once numbered in the millions.

And it wasn't just passenger pigeons and buffalo. A legacy of animal cleansing was visible everywhere you looked in the United States of the 1920s. The year Figgins's crew initiated the dig at Folsom was the same year gray wolves howled for the last time in America's first national park, Yellowstone. By then we had poisoned, trapped, and shot wolves into near extirpation across most of the country. That slaughter was more than symbolic. It meant that a dominant, keystone predatory animal whose mere presence had powerfully shaped North American ecologies across the past five million years of history was now almost gone from the continent south of Canada. At the same time, ornithologists announced that, like passenger pigeons, our giant ivory-billed woodpeckers appeared to be extinct. So did our sole native parrot, the Carolina parakeet. In New England, newspapers year by year tracked the demise of the eastern version of the prairie chicken, known as the heath hen, until the final bird, a last lonely male, was gone.

None of us born in the past century has gotten to see any form of a biologically complete America. We all exist in a world handed down by the prior occupants. Like coming generations, who will have to live with a planet our generations have overheated, we, too, suffer from the selfishness of those who lived before us. In our case our ancestors left us a simplified and devastated Earth. Sitting down to his journal one morning in 1856, Henry David Thoreau enumerated and lamented all the wild creatures missing from the New England of his time because of the myopia and self-interest of the colonial demigods who got there first. What he longed for enough that it ached, he wrote, was "an entire heaven and an entire earth."

IN THE YEARS that produced both the Folsom and Clovis discoveries along with widespread modern extinctions, Americans were among the most optimistic people on the planet. We basked in the sense of having turned the tide in the Great War, our institutions seemed to offer the best future for humanity, and our popular culture was on its way to global domination. Maybe there were a few dark clouds looming. But losing American animals was a minor thing in the big picture, especially since the country seemed to believe that no one and no institutions were really to blame. Birds and animal species were just casualties of progress and civilization, we told ourselves, collateral damage in the act of creating the best country in the world.

Explanations like this prevailed for decades, but a century later our excuses are crumbling in the face of powerful evidence of our culpability. The modern genetic revolution is a scientific breakthrough for the ages, rivaling the discovery of evolution itself, and is now at a sprint, fixed on writing a history that stretches far more deeply into the past than human memory. Genetics and genomics are not only transforming our knowledge of how America acquired its remarkable diversity of life; these sciences are increasingly suggesting what caused us to lose so many of the species that have disappeared.

The answers from both history and science are the subject of many of the following pages, and I won't say more here beyond preparing you for this. Woolly mammoths, Columbian mammoths, flightless sea ducks, great auks, heath hens, bison, pronghorns, beavers, sea otters, fur seals, bald eagles, hummingbirds, whooping cranes, snowy egrets, trumpeter swans, peregrine falcons, California condors, jaguars, cougars, alligators, rattlesnakes, gray wolves, red wolves, Mexican wolves, eastern wolves, grizzly bears, wild horses, passenger pigeons, Carolina parakeets, prairie dogs, black-footed ferrets, coyotes, spotted owls, and ivory-billed woodpeckers all have both deep histories and modern stories that resemble one another more than you think.

WE'RE UNCOMFORTABLE thinking of ourselves as having been carnivores, as killers. For that matter we're not used to thinking of ourselves as a species, preferring terms like "the human race." And we almost never act as if we're another of Earth's animals. But of course we are all those things, and all are a part of our Big History. The sweeping story I tell here, then, is an extension of human history back to our origins as animals, along with the evolutionary adaptations that helped make us who we are. Because it draws a bigger circle around time and subjects, Big History has advantages over conventional history. It can acknowledge that the destiny of a continent like North America lies not just with us but also with our fellow creatures and the larger evolutionary stream in which we all swim. That story unfolded beneath the grand forces that shaped American biology across the past sixty-six million years, from the Paleocene to now. And those forces fashioned some of our planet's most remarkable life-forms, from hummingbirds to Columbian mammoths. Late in that larger trajectory was our own evolution, the appearance of an intensely social omnivore who became master of the planet by reinventing itself as an even more social carnivore.

Some will already know the shorthand version of this. As predators we spread out of Africa, migrating all over the world in search of animal prey. Our close ancestors pushed beyond their African homeland almost a million years ago, and our species joined that quest to explore the larger planet some sixty thousand years ago. In the past twenty-five thousand years a few of us happened on the Americas, the last best place of human exploration, and sometime after sixteen thousand years ago more of us arrived to create America's first shore-to-shore human society, profoundly altering the ancient bestiary. We did it all once more five centuries ago, when Old Worlders transplanted themselves and their economies, cultures, and ideas to the continent's existing world of peoples and animals, and then, like some new contagion spreading inland from the coasts, proceeded to effect a widespread demolition of almost all that was there.

This is our cross to bear and one of the inescapable truths of Big History. According to a 2018 National Academy of Sciences study, as our predatory genus *Homo* spread across the planet, Earth lost roughly three hundred mammal species, sacrificing more than two and a half billion years of unique evolutionary history. The migrations that ultimately led us to America during the Pleistocene erased a shocking two billion years of evolved mammalian genetic diversity. Across the past five hundred years human-caused extinctions have cost Earth another half-million years of cumulative genetics. And that's the mammals alone, never mind the birds and reptiles. As the Academy of Sciences authors put the matter, "This means that prehistoric and historic extinctions were close to worst-case scenarios."

To lay out the wildlife story of those last five centuries in another way, since 1500 we Americans have managed to commit the largest single destruction of wild animals discoverable in modern history. In the early twentieth century there were former market hunters who believed they ought to get national medals of commendation for their role in that.

So, fair warning, some of the stories in this book won't be easy to hear or process. But take heart. Our full awakening amid the rich life of the planet also bequeathed to humanity an undertow of wonder and fascination for other creatures in Earth's evolutionary stream. The late Harvard scientist E. O. Wilson has called this core human value *biophilia*, which he defined as a genetic memory of our emergence, a piercing love affair with the other life-forms that surround us on the planet. Our sense of this magic and romance is visible in the enthralled renderings of animals we painted on the walls of Europe's limestone caverns, and on miles of cliffs in the Serranía La Lindosa forests in South America. Biophilia was certainly there when Americans deliberately said No! to destruction and loss and passed the most significant law in wild-animal history. The Endangered Species Act of 1973 and its recovery programs, dedicated to the ultimate democratic proposition that every species has a right to exist, are this country at its best. They are also a course correction that those battling to rescue Earth from an

overheated climate should feel some optimism about. We have it in ourselves to change.

A love of diverse life as old as our origins was always there to call on, and when we have done so we've bathed human history in a brighter light. This complex American story produced many inspiring, empathetic heroes, from Native peoples who preserved a wild continent largely intact for ten thousand years to naturalists compelled to know every detail of continental animal life, from visionaries who gave the world its first national parks to writers, activists, and politicians who confronted the destruction and loss of wild animals before it was too late. Always there have been scientists, describing and classifying exotic new species until accumulated experience and knowledge finally yielded up the grand insight about the diversity of life and our own origins. Others made breakthroughs that caused us to question our persecutions of America's anciently evolved predator guild, the canids, bears, and big cats. Most recently science is rewriting biological histories, while helping us understand that the self-awareness and cultural richness we celebrate as human place us *within* animal life, not outside it. All is vanity to think otherwise.

These and more are part of this story. But this is still a narrative leavened with pathos, because while we adore the diversity of our remaining birds and animals and marvel at them as our species always has, we've always been most concerned about our own self-interest. Those particular angels of our nature account for where we are in the twenty-first century, with a continuing sixth, and massive, extinction of wild life-forms underway in America and across Earth, and with at least some of us dreading that outcome.

IN THE EARLY 2000S the chemist and Nobel laureate Paul Crutzen popularized a new term in global languages, the "Anthropocene epoch," designating the moment in history when human impacts on Earth had become so dominant as to transform our planet in ways

formerly reserved for extraterrestrial impacts or geological upheavals. Scientists since have debated whether the designation is proper and, if it is (and most of the public that has heard of the idea thinks it is), when it might have begun.

At a time when climate change is on all our minds, Crutzen and his supporters have pointed to the industrial revolution and the onset of our fossil fuel economy as the obvious beginning point for an age when humans became Earth's most powerful force. Others have insisted on a starting date even more recent, in the 1940s with the dawn of the atomic age, which for the first time put a technology in the hands of the human species capable of destroying most life on Earth with the press of a button.

But standing here in Wild Horse Arroyo in 2018 as a massive storm cell gathers itself to shoot lightning daggers at the mesa overhead, I can't help entertaining an alternative theory for the Anthropocene. The replica Folsom point in the pocket of my jacket and the animal bones pulled out of the ground here imply to me a much deeper time frame for our species' transformation of the planet. Indeed, the Dutch curators of the History Database of the Global Environment have suggested that the Neolithic Revolution—widespread farming, animal domestication, and the emergence of cities a few thousand years ago—might offer a more apt beginning for the Anthropocene.

As for me, I'm more in line with the archaeologists like our ponytailed guide. A panel of his colleagues from around the world argued a few years ago that if we're really serious about dating a global Anthropocene, if we truly want to discover when our species' planet-altering impact began, we have to look much further back in time than even the Neolithic—at what happened to the world's animals, those victims of a love affair gone bad when we humans fully settled Earth.