The World Without Us

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Extract

PRELUDE

A Monkey Koan

ONE JUNE MORNING in 2004, Ana María Santi sat against a post beneath a large palm-thatched canopy, frowning as she watched a gathering of her people in Mazáraka, their hamlet on the Río Conambu, an Ecuadoran tributary of the upper Amazon. Except for Ana María's hair, still thick and black after seven decades, everything about her recalled a dried legume pod. Her gray eyes resembled two pale fish trapped in the dark eddies of her face. In a patois of Quichua and a nearly vanished language, Zápara, she scolded her nieces and granddaughters. An hour past dawn, they and everyone in the village except Ana María were already drunk.

The occasion was a *minga,* the Amazonian equivalent of a barn raising. Forty barefoot Zápara Indians, several in face paint, sat jammed in a circle on log benches. To prime the men for going out to slash and burn the forest to clear a new cassava patch for Ana María's brother, they were drinking *chicha*—gallons of it. Even the children slurped ceramic bowls full of the milky, sour beer brewed from cassava pulp, fermented with the saliva of Zápara women who chew wads of it all day. Two girls with grass braided in their hair passed among the throng, refilling *chicha* bowls and serving dishes of catfish gruel. To the elders and guests, they offered hunks of boiled meat, dark as chocolate. But Ana María Santi, the oldest person present, wasn't having any.

Although the rest of the human race was already hurtling into a new millennium, the Zápara had barely entered the Stone Age. Like the spider

monkeys from whom they believe themselves descended, the Zápara essentially still inhabit trees, lashing palm trunks together with *bejuco* vines to support roofs woven of palm fronds. Until cassava arrived, palm hearts were their main vegetable. For protein they netted fish and hunted tapirs, peccaries, wood-quail, and curassows with bamboo darts and blowguns.

They still do, but there is little game left. When Ana María's grandparents were young, she says, the forest easily fed them, even though the Zápara were then one of the largest tribes of the Amazon, with some 200,000 members living in villages along all the neighboring rivers. Then something happened far away, and nothing in their world—or anybody's—was ever the same.

What happened was that Henry Ford figured out how to mass-produce automobiles. The demand for inflatable tubes and tires soon found ambitious Europeans heading up every navigable Amazonian stream, claiming land with rubber trees and seizing laborers to tap them. In Ecuador, they were aided by highland Quichua Indians evangelized earlier by Spanish missionaries and happy to help chain the heathen, lowland Zápara men to trees and work them until they fell. Zápara women and girls, taken as breeders or sex slaves, were raped to death.

By the 1920s, rubber plantations in Southeast Asia had undermined the market for wild South American latex. The few hundred Zápara who had managed to hide during the rubber genocide stayed hidden. Some posed as Quichua, living among the enemies who now occupied their lands. Others escaped into Peru. Ecuador's Zápara were officially considered extinct. Then, in 1999, after Peru and Ecuador resolved a long border dispute, a Peruvian Zápara shaman was found walking in the Ecuadoran jungle. He had come, he said, to finally meet his relatives.

The rediscovered Ecuadoran Zápara became an anthropological cause célèbre. The government recognized their territorial rights, albeit to only a shred of their ancestral land, and UNESCO bestowed a grant to revive their culture and save their language. By then, only four members of the tribe still spoke it, Ana María Santi among them. The forest they once knew was mostly gone: from the occupying Quichua they had learned to fell trees with steel machetes and burn the stumps to plant cassava. After a single harvest, each plot had to be fallowed for years; in every direction, the towering forest canopy had been replaced by spindly, second-growth shoots of laurel, magnolia, and *copa* palm. Cassava was now their mainstay,

consumed all day in the form of *chicha.* The Zápara had survived into the 21st century, but they had entered it tipsy, and stayed that way.

They still hunted, but men now walked for days without finding tapirs or even quail. They had resorted to shooting spider monkeys, whose flesh was formerly taboo. Again, Ana María pushed away the bowl proffered by her granddaughters, which contained chocolate-colored meat with a tiny, thumbless paw jutting over its side. She raised her knotted chin toward the rejected boiled monkey.

"When we're down to eating our ancestors," she asked, "what is left?"

So far from the forests and savannas of our origins, few of us still sense a link to our animal forebears. That the Amazonian Zápara actually do is remarkable, since the divergence of humans from other primates occurred on another continent. Nevertheless, lately we have had a creeping sense of what Ana María means. Even if we're not driven to cannibalism, might we, too, face terrible choices as we skulk toward the future?

A generation ago, humans eluded nuclear annihilation; with luck, we'll continue to dodge that and other mass terrors. But now we often find ourselves asking whether inadvertently we've poisoned or parboiled the planet, ourselves included. We've also used and abused water and soil so that there's a lot less of each, and trampled thousands of species that probably aren't coming back. Our world, some respected voices warn, could one day degenerate into something resembling a vacant lot, where crows and rats scuttle among weeds, preying on each other. If it comes to that, at what point would things have gone so far that, for all our vaunted superior intelligence, we're not among the hardy survivors?

The truth is, we don't know. Any conjecture gets muddled by our obstinate reluctance to accept that the worst might actually occur. We may be undermined by our survival instincts, honed over eons to help us deny, defy, or ignore catastrophic portents lest they paralyze us with fright.

If those instincts dupe us into waiting until it's too late, that's bad. If they fortify our resistance in the face of mounting omens, that's good. More than once, crazy, stubborn hope has inspired creative strokes that snatched people from ruin. So, let us try a creative experiment: Suppose that the worst has happened. Human extinction is a fait accompli. Not by nuclear calamity, asteroid collision, or anything ruinous enough to also

wipe out most everything else, leaving whatever remained in some radically altered, reduced state. Nor by some grim eco-scenario in which we agonizingly fade, dragging many more species with us in the process.

Instead, picture a world from which we all suddenly vanished. Tomorrow.

Unlikely perhaps, but for the sake of argument, not impossible. Say a *Homo sapiens*–specific virus—natural or diabolically nano-engineered—picks us off but leaves everything else intact. Or some misanthropic evil wizard somehow targets that unique 3.9 percent of DNA that makes us human beings and not chimpanzees, or perfects a way to sterilize our sperm. Or say that Jesus—more on Him later—or space aliens rapture us away, either to our heavenly glory or to a zoo somewhere across the galaxy.

Look around you, at today's world. Your house, your city. The surrounding land, the pavement underneath, and the soil hidden below that. Leave it all in place, but extract the human beings. Wipe us out, and see what's left. How would the rest of nature respond if it were suddenly relieved of the relentless pressures we heap on it and our fellow organisms? How soon would, or could, the climate return to where it was before we fired up all our engines?

How long would it take to recover lost ground and restore Eden to the way it must have gleamed and smelled the day before Adam, or *Homo habilis,* appeared? Could nature ever obliterate all our traces? How would it undo our monumental cities and public works, and reduce our myriad plastics and toxic synthetics back to benign, basic elements? Or are some so unnatural that they're indestructible?

And what of our finest creations—our architecture, our art, our many manifestations of spirit? Are any truly timeless, at least enough so to last until the sun expands and roasts our Earth to a cinder?

And even after *that,* might we have left some faint, enduring mark on the universe; some lasting glow, or echo, of Earthly humanity; some interplanetary sign that once we were here?

For a sense of how the world would go on without us, among other places we must look to the world before us. We're not time travelers, and the fossil record is only a fragmentary sampling. But even if that record were complete, the future won't perfectly mirror the past. We've ground some

species so thoroughly into extinction that they, or their DNA, will likely never spring back. Since some things we've done are likely irrevocable, what would remain in our absence would not be the same planet had we never evolved in the first place.

Yet it might not be so different, either. Nature has been through worse losses before, and refilled empty niches. And even today, there are still a few Earthly spots where all our senses can inhale a living memory of this Eden before we were here. Inevitably they invite us to wonder how nature might flourish if granted the chance.

Since we're imagining, why not also dream of a way for nature to prosper that doesn't depend on our demise? We are, after all, mammals ourselves. Every life-form adds to this vast pageant. With our passing, might some lost contribution of ours leave the planet a bit more impoverished?

Is it possible that, instead of heaving a huge biological sigh of relief, the world without us would miss us?

PART I

CHAPTER 1

A Lingering Scent of Eden

YOU MAY NEVER have heard of the Białowieża Puszcza. But if you were raised somewhere in the temperate swathe that crosses much of North America, Japan, Korea, Russia, several former Soviet republics, parts of China, Turkey, and Eastern and Western Europe—including the British Isles—something within you remembers it. If instead you were born to tundra or desert, subtropics or tropics, pampas or savannas, there are still places on Earth kindred to this *puszcza* to stir your memory, too.

Puszcza, an old Polish word, means "forest primeval." Straddling the border between Poland and Belarus, the half-million acres of the Białowieża Puszcza contain Europe's last remaining fragment of old-growth, lowland wilderness. Think of the misty, brooding forest that loomed behind your eyelids when, as a child, someone read you the Grimm Brothers' fairy tales. Here, ash and linden trees tower nearly 150 feet, their huge canopies shading a moist, tangled understory of hornbeams, ferns, swamp alders and crockery-sized fungi. Oaks, shrouded with half a millennium of moss, grow so immense here that great spotted woodpeckers store spruce cones in their three-inch-deep bark furrows. The air, thick and cool, is draped with silence that parts briefly for a nutcracker's croak, a pygmy owl's low whistle, or a wolf 's wail, then returns to stillness.

The fragrance that wafts from eons of accumulated mulch in the forest's core hearkens to fertility's very origins. In the Białowieża, the profusion of life owes much to all that is dead. Almost a quarter of the organic mass aboveground is in assorted stages of decay—more than 50 cubic yards of

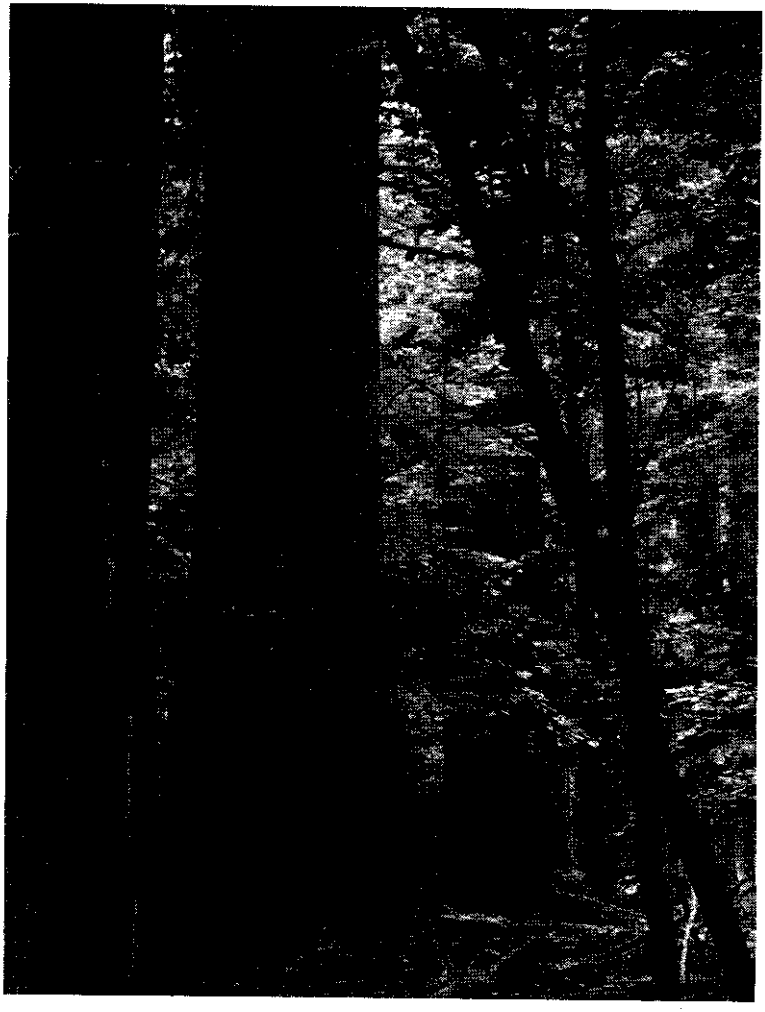
decomposing trunks and fallen branches on every acre, nourishing thousands of species of mushrooms, lichens, bark beetles, grubs, and microbes that are missing from the orderly, managed woodlands that pass as forests elsewhere.

Together those species stock a sylvan larder that provides for weasels, pine martens, raccoons, badgers, otters, fox, lynx, wolves, roe deer, elk, and eagles. More kinds of life are found here than anywhere else on the continent—yet there are no surrounding mountains or sheltering valleys to form unique niches for endemic species. The Białowieża Puszcza is simply a relic of what once stretched east to Siberia and west to Ireland.

The existence in Europe of such a legacy of unbroken biological antiquity owes, unsurprisingly, to high privilege. During the 14th century, a Lithuanian duke named Władysław Jagiełło, having successfully allied his grand duchy with the Kingdom of Poland, declared the forest a royal hunting preserve. For centuries, it stayed that way. When the Polish-Lithuanian union was finally subsumed by Russia, the Białowieża became the private domain of the tsars. Although occupying Germans took lumber and slaughtered game during World War I, a pristine core was left intact, which in 1921 became a Polish national park. The timber pillaging resumed briefly under the Soviets, but when the Nazis invaded, a nature fanatic named Hermann Göring decreed the entire preserve off-limits, except by his pleasure.

Following World War II, a reportedly drunken Josef Stalin agreed one evening in Warsaw to let Poland retain two-fifths of the forest. Little else changed under communist rule, except for construction of some elite hunting dachas—in one of which, Viskuli, an agreement was signed in 1991 dissolving the Soviet Union into free states. Yet, as it turns out, this ancient sanctuary is more threatened under Polish democracy and Belarusian independence than it was during seven centuries of monarchs and dictators. Forestry ministries in both countries tout increased management to preserve the Puszcza's health. Management, however, often turns out to be a euphemism for culling—and selling—mature hardwoods that otherwise would one day return a windfall of nutrients to the forest.

IT IS STARTLING to think that all Europe once looked like this Puszcza. To enter it is to realize that most of us were bred to a pale copy of what



Five-hundred-year-old oaks. Białowieża Puszcza, Poland.

PHOTO BY JANUSZ KORBEL.

nature intended. Seeing elders with trunks seven feet wide, or walking through stands of the tallest trees here—gigantic Norway spruce, shaggy as Methuselah—should seem as exotic as the Amazon or Antarctica to someone raised among the comparatively puny, second-growth woodlands found throughout the Northern Hemisphere. Instead, what's astonishing is how primally familiar it feels. And, on some cellular level, how complete.

Andrzej Bobiec recognized it instantly. As a forestry student in Krakow, he'd been trained to manage forests for maximum productivity, which included removing "excess" organic litter lest it harbor pests like bark beetles. Then, on a visit here he was stunned to discover 10 times more biodiversity than in any forest he'd ever seen.

It was the only place left with all nine European woodpecker species, because, he realized, some of them only nest in hollow, dying trees. "They can't survive in managed forests," he argued to his forestry professors. "The Białowieża Puszcza has managed itself perfectly well for millennia."

The husky, bearded young Polish forester became instead a forest ecologist. He was hired by the Polish national park service. Eventually, he was fired for protesting management plans that chipped ever closer to the pristine core of the Puszcza. In various international journals, he blistered official policies that asserted that "forests will die without our thoughtful help," or that justified cutting timber in the Białowieża's surrounding buffer to "reestablish the primeval character of stands." Such convoluted thinking, he accused, was rampant among Europeans who have hardly any memory of forested wilderness.

To keep his own memory connected, for years he daily laced his leather boots and hiked through his beloved Puszcza. Yet although he ferociously defends those parts of this forest still undisturbed by man, Andrzej Bobiec can't help being seduced by his own human nature.

Alone in the woods, Bobiec enters into communion with fellow *Homo sapiens* through the ages. A wilderness this pure is a blank slate to record human passage: a record he has learned to read. Charcoal layers in the soil show him where gamesmen once used fire to clear parts of the forest for browse. Stands of birch and trembling aspen attest to a time when Jagiełło's descendants were distracted from hunting, perhaps by war, long enough for these sun-seeking species to recolonize game clearings. In their shade grow telltale seedlings of the hardwoods that were here before them.

Gradually, these will crowd out the birch and aspen, until it will be as if they were never gone.

Whenever Bobiec happens on an anomalous shrub like hawthorn or on an old apple tree, he knows he's in the presence of the ghost of a log house long ago devoured by the same microbes that can turn the giant trees here back into soil. Any lone, massive oak he finds growing from a low, clover-covered mound marks a crematorium. Its roots have drawn nourishment from the ashes of Slavic ancestors of today's Belorusians, who came from the east 900 years ago. On the northwest edge of the forest, Jews from five surrounding shtetls buried their dead. Their sandstone and granite headstones from the 1850s, mossy and tumbled by roots, have already worn so smooth that they've begun to resemble the pebbles left by their mourning relatives, who themselves long ago departed.

Andrzej Bobiec passes through a blue-green glade of Scots pine, barely a mile from the Belarusian border. The waning October afternoon is so hushed, he can hear snowflakes alight. Suddenly, there's a crashing in the underbrush, and a dozen wisent—*Bison bonasus,* European bison—burst from where they've been browsing on young shoots. Steaming and pawing, their huge black eyes glance just long enough for them to do what their own ancestors discovered they must upon encountering one of these deceptively frail bipeds: they flee.

Just 600 wisent remain in the wild, nearly all of them here—or just half, depending on what's meant by *here.* An iron curtain bisects this paradise, erected by the Soviets in 1980 along the border to thwart escapees to Poland's renegade Solidarity movement. Although wolves dig under it, and roe deer and elk are believed to leap it, the herd of these largest of Europe's mammals remains divided, and with it, its gene pool—divided and mortally diminished, some zoologists fear. Once, following World War I, bison from zoos were brought here to replenish a species nearly extirpated by hungry soldiers. Now, a remnant of a Cold War threatens them again.

Belarus, which well after communism's collapse has yet to remove statues of Lenin, also shows no inclination to dismantle the fence, especially as Poland's border is now the European Union's. Although just 14 kilometers separate the two countries' park headquarters, to see the Belovezhskaya Pushcha, as it is called in Belorusian, a foreign visitor must

drive 100 miles south, take a train across the border to the city of Brest, submit to pointless interrogation, and hire a car to drive back north. Andrzej Bobiec's Belorusian counterpart and fellow activist, Heorhi Kazulka, is a pale, sallow invertebrate biologist and former deputy director of Belarus's side of the primeval forest. He was also fired by his own country's park service, for challenging one of the latest park additions—a sawmill. He cannot risk being seen with Westerners. Inside the Brezhnev-era tenement where he lives at the forest's edge, he apologetically offers visitors tea and discusses his dream of an international peace park where bison and moose would roam and breed freely.

The Pushcha's colossal trees are the same as those in Poland; the same buttercups, lichens, and enormous red oak leaves; the same circling white-tailed eagles, heedless of the razor-wire barrier below. In fact, on both sides, the forest is actually growing, as peasant populations leave shrinking villages for cities. In this moist climate, birch and aspen quickly invade their fallow potato fields; within just two decades, farmland gives way to woodland. Under the canopy of the pioneering trees, oak, maple, linden, elm, and spruce regenerate. Given 500 years without people, a true forest could return.

The thought of rural Europe reverting one day to original forest is heartening. But unless the last humans remember to first remove Belarus's iron curtain, its bison may wither away with them.