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 Shawn William Miller
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INTRODUCTION

PROPS AND SCENERY

Without contradiction, this land is the best of all for the life of man: the air is exceptionally healthful, and the soil extremely fertile; all that is before you is delightful and pleasing to the human eye to a great degree.¹

In 1519, Hernán Cortés advanced on Aztec Mexico to accomplish the foremost event of America's conquest. Launching from Cuba, his armies sailed the coral reefs of Cozumel, marched through rainforests in Vera Cruz, skirted smoking volcanoes in the Sierra Madre, and crossed the reflective lakes of the Valley of Mexico, some of the earth's most stunning and diverse geography. Remarkably, the conquistadors had very little to say about the nature they encountered along their paths to empire. Nature was unacknowledged, taken for granted. The conquest's chroniclers – Cortés, Francisco López de Gómara, Bernal Díaz del Castillo – emphasized, rather, the subjugation of an exotic American culture, an antagonist whose story and defeat were worthy of the telling. American nature, it was assumed, had already been conquered by Amerindian cultures. America's human empires might resist for a time, but nature would supinely yield her possessions immediately upon the transfer of imperial title to her new rulers.

Cortés and his men shared a limited although all too common view of history, one in which men of professed superior culture, technology, and religion succeed one another in an unbroken chain as rulers of

¹ Pero de Magalhães de Gandavo, *Tratado da terra do Brasil & história da Província Santa Cruz a que vulgarmente chamamos Brasil*, 1576, 12th ed. (Recife, Brazil: Editora Massangana, 1995), 53–4, my translation.

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civilization. To them, the past was exclusively a human pageant, the triumphal march of conquering men, as if nature had no role in the course and shape of time's passage. It was a view that blinded Cortés as he later marched south to extend his conquests into Central America's dark forests. Entering the former lands of the Maya, a landscape riddled with the ruins of a once vigorous civilization, Cortés, and many to follow, could not see the past for the trees, even as they tripped over it. The obscuring jungle, which was only 600 years old, had forced its roots into the Maya cities' prostrate cadavers, dismembering monoliths and dislocating forensic material that might have betrayed the causes of Maya collapse. To the Spanish passersby, the great former Maya cities were little more than thickly vegetated hillocks, urban burial mounds with no notable headstones. Cortés went on conquering, but he failed to observe that conquistadors had come this way before. Whatever the cause of the Maya collapse, after an impressive half millennium of cities, art, writing, trade, and roads, nature had ultimately prevailed, covering up civilization's triumphs and its mistakes.

We still think of our history much as did the conquistadors, a series of cultural events that came to pass entirely independent of nature. The stage for the human drama, we suppose, is stocked with culture's props but is barren of nature's scenery. Until recently, there have been few beasts, creeks, food crops, dirt clods, or raindrops in our histories. Yet nature is more than mere backdrop to the human drama, more than the resource that sustains it. Nature's troupe – vegetable, animal, and mineral – forms part of the production's cast, actors whose agency rivals that of the human players. History without nature is not only self-serving: it is inaccurate, shortsighted, and potentially perilous to the human story line. For the drama to be complete, we must cast both nature and culture in the roles of protagonist, for each have dealt the other health and sickness, aid and harm, and life and death. Yet neither nature nor culture has been able to determine the other's destiny entirely. Quite the contrary. Both culture and nature interpret characters that are too wily, cunning, and unpredictable to be altogether bullied by the other. However, the very same tenacious qualities in each have resulted in nature and culture shaping each other profoundly, in ways mundane and catastrophic. All of our histories need not be environmental, but in some of our histories, nature and culture deserve equal billing.

This is a history of humans and nature in the Neotropics, the bioregion of tropical and subtropical America that ranges from Mexico and the Caribbean well down into South America's southern cone. In time,

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I will attempt to span roughly six centuries, from strategies to eat in Aztec Tenochtitlán, to the struggle to breathe in today's Mexico City. And in subject I will range as broadly, from yesterday's tropical agriculture to today's ecotourist zoo. My primary focus, however, will be on humans striving to make themselves a tropical home. In a landscape that many, since Columbus, have described as nigh unto the original Eden, what shape did human habitats take, and what relationships did they form with the nature on which they were ensconced? Home is the term we will use to describe the human habitat, the place where culture and nature meet and contest each other's desired accommodations. Home, whether speaking of an individual shelter or an entire civilization, is among our most powerful cultural symbols, an ideal that embraces security, comfort, beauty, belonging, place, and memory. Environmental history has something to say about each of those homely qualities, but our chief concern will consider whether the project of tropical civilization has been sustainable. To what extent have human habitats in Latin America succeeded and failed to provide for themselves, their children, and their children's children? Did Indian homes function in long-term harmonious balance with nature; did colonial homes, cities, and farms built by European settlers and African workers substantially degrade America's landscapes; did Latin America's independent nations export nature's wealth faster than it could renew itself, forcing them to make drastic leaps from one unsustainable enterprise to the next; and, ultimately, are Latin Americans' current homes, most of them dense urban agglomerations, on a warped trajectory toward cultural collapse? The latest answers to some of these questions may surprise you.

Do not confuse sustainable development, an issue outside our interest, with sustainability. This environmental history, unlike most history, will be less interested in civilization's material progress or social equality than in its permanence and longevity. And, although it may seem at first impression hard-hearted, it is also more interested in the survival of human civilization than in the biological and material successes of individual humans. As a species, humans have been as tenacious as bacteria, more like rodents than dinosaurs, surviving cultural and natural disasters of all sorts. Although high Maya civilization now lays tragically silent beneath tangled forests, the Maya as a vital people are still very much with us. Nature, so far, has posed no substantial threat to human biological survival. However, Neotropical America's history is replete with examples of civilization's repeated collapse. To the Maya case you can add dozens of other cultures of whose demise we are aware,

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and probably many more of which we are not. Civilization, the human species' highest expression of home, has proven most vulnerable, and its loss, which entails the loss of security, comfort, beauty, belonging, place, and even history itself, is the greatest of all human tragedies, short of our biological extinction.

To address the question of sustainability, I will emphasize four recurring themes: population, technology, attitudes toward nature, and attitudes toward consumption. Among other variables, these factors have substantially shaped civilization's environmental sustainability. All else being equal, large populations are less sustainable than small ones. All else, however, is seldom equal; small voracious populations that consume without restraint will be less sustainable than large ones of more modest material demands. Hence consumption, another instance where culture and nature make intimate contact, will figure prominently in our journey across landscapes and time. Humans, like all species, must consume nature to survive, but only the human species has demonstrated the capacity to consume exponentially more than its basic biological needs. Technology as a theme is ambivalently double-edged: some human instruments, such as the Inca woodstove and the electric streetcar, have permitted cultures to satisfy their needs for heat and transportation, for example, with fewer resources and less pollution; others, such as the chainsaw and the private automobile, have heartened cultures to use resources wastefully and have entailed substantial collateral damage.

Cultural attitudes toward nature set the tone of the human relationship with the environment and can potentially be a most significant factor in a culture's sustainability. Ideas often matter. In practice, however, attitudes toward nature have yet to prove themselves historically significant. History has shown that regardless of a culture's religious or scientific views of nature, we of the human race have joined hands in reshaping and devastating the earth, its diversity and vitality. Indians, many of whom had sharply less inimical attitudes toward nature than Europeans, still deforested, hunted beasts to extinction, and carved the face of the landscape to meet their material and cosmological needs. In some ways more striking, twenty-first-century westerners live in the most enlightened era ever as regards positive, even amicable, attitudes toward nature. Due to the popular environmental movement, not yet a half a century old but one of the most profound revolutions in recent human thought, nature is valued, loved, revered, and cherished possibly as in no other time. But the developed nations, which have the

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strongest claim to environmentalism's revolution, consume, pollute, and kill the nature we profess to admire and respect at rates entirely unprecedented. As Wallace Stegner reminded us, nature appreciation and natural destruction are utterly compatible. Ideologies are important, and hence will not be ignored, but as in nearly every party and creed, anachronisms survive and hypocrites abound.

One of the tasks of history is to expand human memory beyond a single generation. Few humans have lived as long as a century, and none of us can say exactly what a landscape looked like even at the time of our birth. In fact, many Latin Americans, like North Americans, have begun to transform their landscapes so quickly, and they have themselves become so mobile, flitting from one location to the next in search of better lives, few can guess what the landscape they currently call home looked like even 20 years ago. We are hardly aware of the visible impact we have had on the earth, and we remain largely ignorant of what may have been lost with time's passing. The work of environmental history is to recover, in a sense, what has been lost, and to make it dear to our historical consciousness. Only by putting nature in our official past can we potentially grasp its substantially altered place in our present and future.

J. R. McNeill has concisely defined environmental history as the history of humans and "the rest of nature." As much as we may protest, humans are nature too. Humans will remain at center stage in our drama lest environmental history shade into natural history; however, the stories of nonhuman life and of the inanimate resources on which life depends will be given place in our plots. In addition to Indians, colonists, slaves, industrialists, peasants, urbanites, and tourists, our cast will include soils, smallpox, sugar, mercury, egrets, butterflies, guano, whales, hurricanes, and reefs. To the story's benefit, the rest of nature in Latin America is overwhelming in its diversity. Despite the racial and ethnic diversity of hominids in the region, humans constitute just one species. By contrast, there are more than 30,000 species of vascular plants, three times as many as Africa or Asia despite Latin America being significantly smaller than either of those tropical continents. Of orchids alone there are some 8,000 species. The region holds more than 3,000 species of birds, and the Amazon and its tributaries carry in excess of 2,000 kinds of fish. Little Peru sustains 3,532 species of butterfly, more than any other nation. And single trees are known to support 50 varieties of ant. Of course, all these tallies are current. What was lost before we cared to count will never be known, but we do know that of those who remain, many are threatened, about 650 species in Brazil alone.

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Due to our rather limited ability to comprehend the immensities of cosmological time and space, we have thus far failed to grasp fully just how rare life is. The universe is mostly vacuum and lifeless elements. As far as we know, life on this terrestrial bestiary of breeding, breathing creatures may be unique in all space and in all time. We share much with the rest of nature, but the characteristic that should connect our mutual fortunes most persuasively is our astonishing rarity. That we generally value things by their scarcity, then, makes an odd contradiction in the face of our often thoughtless actions toward living things, human and nonhuman. More of us would treasure life, even its most bizarre and frightening forms, if we truly understood how cosmologically vulnerable it is.

While sustainability will serve as our foremost rule for cultural judgment throughout the book, sustainability is largely a human-centered aspiration. It promises nothing to the rest of nature's health and survival, just to that of humans. Sustainability so focuses on building successful, long-lived human societies that it neglects those elements of nature that make no apparent contribution to human welfare and, in fact, mercilessly attacks natural objects and creatures that threaten it. We have seen progress. We have rescued a few favored species, such as whales, that hardly entered human consciousness even 50 years ago, and we have cleaned up some bodies of water and a few pockets of urban air that troubled our growing sensibilities. However, the fact that by our own estimation we fall well short of achieving sustainability in most fields of human endeavor hardly bodes well for the rest of life on the planet.

Sustainability remains a commendable cultural goal, but even if achieved it will be insufficient to reverse nature's miserable fortunes. Safeguarding nature will require a yet more revolutionary change in human attitudes that must grant nonhuman life, even inanimate landscapes, fuller consideration as regards their own rights to sustainable existence. And it will require relinquishing our obsession with perpetual material growth. Such a change would not deny humans their right to kill and eat, something all living things must carry out to survive; nor will it require that we reintroduce smallpox into the wild as we have done with wolves. We will, rather, have to reorient our cultural goals toward living satisfied and happy in nature's company rather than single-mindedly progressing by its demise, for the danger is the sneaking probability that many of us seem all too willing to embrace: that humans can sustain themselves over the long-term not only without smallpox and

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wolves, but also without forests and birds, corals and fishes, and fields and grasses. As human technologies and arts advance, we may just be able to create a sustainable existence for ourselves without nature, or with substantially less of it than we currently have. Like the space travelers of science fiction who sever themselves from earth's life-sustaining services, we may come to be able to biologically sustain ourselves on synthesized food, purified oxygen, filtered urine, and an artificially controlled climate – indefinitely. And we may satisfy our spiritual need for nonhuman nature through art, broadcasting birdsong to wireless earphones and projecting the images of stately forests and meandering wildlife into every corner of our increasingly virtual existence. Such bleak, dystopic futures are frequently depicted in film and books, and they are universally hellish, sustainable or not. In our long struggle with nature, true victory cannot envisage *Homo sapiens* as the last one standing. Even if our clever civilizations will hereafter not require the biodiversity that much of the rest of nature provides, the next evolution in environmental thought must be the realization that we desperately want it anyway.

CHAPTER ONE

AN OLD WORLD BEFORE IT WAS “NEW”

Oh God, my father, my mother, Holy Huitz-Hok, Lord of the hills and valleys, Lord of the forest, be patient. I am doing as always has been done . . . but perhaps you will suffer it. I am about to damage you, I am about to work you so that I may live. . . . With all my soul I am going to work you.¹

Christopher Columbus refused to accept that he had discovered a new world, two entire continents of which his own world had been ignorant. He doggedly held that he had discovered a new route to the backside of the known world, the coveted Orient, even the original human home, the garden planted by God eastward in Eden – just as he intended. In his first report penned to Ferdinand and Isabella, Columbus described his island discoveries as immense gardens of useful trees perpetually in foliage, flower, and fruit, flowing with honey and bounded by fertile fields. Significantly, neither Columbus nor his seafaring successors saw their discoveries as empty wilderness. To Columbus, the Edenic landscapes he described were no more pristine than the Europe from which he had sailed. Eden was, after all, a garden, not a wilderness. The paradise he described, whether in origin divine or manmade, was a cultivated artifact, and as Columbus pronounced repeatedly, it was full of “innumerable people.” If America was in fact news to Europe, as Columbus’ successors figured out, Europeans also clearly understood that it was by no means new. The so-called “New World,” once removed from the

¹ Maya prayer, quoted in J. Eric S. Thompson, *Maya Archaeologist* (Norman: University of Oklahoma Press, 1975), 139–40.

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perspective of Columbus’ astonishing landfall, is seen more accurately as just another old world.

Pre-Columbian America, however, we have long idealized as one big leafy preserve inhabited by an inconsequential smattering of Indians, all of whom we have ecologically sainted. This Pristine Myth, which depicts precontact America as an unspoiled, lightly peopled wilderness in environmental harmony and ecological balance, is an image that manages to remain standing even though recent scholarship has cut off its legs. Some have held to the myth because an empty land justifies America’s conquest and colonization. But we cannot blame the Iberians, the Spanish and Portuguese conquerors, for creating the myth. Such men had no qualms and made no excuses for subjugating two densely peopled continents. Conquest justified itself, and the more people conquered, converted, and taxed, the better.

The Iberians struck few deserted shores; nearly every place they landed was inhabited by plentiful peoples who greeted them with gifts or arrows. From Columbus in the Caribbean to Magellan in Tierra del Fuego, all described the Americas as “densely peopled,” and “full.” Bartolomé de Las Casas observed in 1542 that the Caribbean islands were “as populous and filled with native-born peoples, the Indians, as any peopled land upon the earth.”² Gaspar de Carvajal, chaplain on the first European descent of the Amazon, found even its banks heavily settled, noting “cities that glistened white” with tens of thousands of people. One city, he reported, ran unbroken for nearly 30 kilometers along the river’s bank. The inventor of the title “New World,” Amerigo Vespucci, who also became America’s namesake, encountered so many people on his multiple voyages to South America that he proclaimed it was more densely peopled than Europe, Asia, or Africa. Such claims were only amplified when the Iberians encountered highly developed empires in the highlands of Mexico and Peru. Las Casas described Mexico’s mainland as “all filled as though the land were a beehive of people,” as if “God did set down upon these lands the entire multitude, or greatest part, of the entire human lineage.”³ Until recently, these observations were believed the boastful exaggerations of men bent on embellishing their conquests (or in Las Casas’ case, amplifying the tragedy). Since at least

² Bartolomé de Las Casas, *An Account, Much Abbreviated, of the Destruction of the Indies*, ed. Franklin W. Knight (Indianapolis, IN: Hackett Publishing, 2003), 4–5.

³ Ibid.

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the late eighteenth century, men as eminent as Adam Smith questioned the veracity of unschooled soldiers and irrational priests who in the sixteenth century dared suggest that Indian America was anything more than a primitive polity of meager, scattered tribes. However, mounting new evidence is corroborating the conquerors' crude accounting.

Estimates of the precontact American population remain crude, and we will never know Indian numbers with certainty, but changing assumptions have increased them considerably. Scholars in the 1930s estimated the New World's 1492 population at 8–15 million, their figures influenced by racist assumptions about the Indians' incapacity for civilization and the tropics' incapacity for intensive agriculture. Historical demographers and archeologists have turned those assumptions on their heads, and particularly since the 500th anniversary of Columbus' voyage, scholars have argued persuasively that American cultures created societies supporting some of the world's densest populations. Today, we believe that the American population in 1492 ranged from 40 to 70 million (some estimates go as high as 115 million), and the large majority lived in what is today Latin America. Mexico and Central America combined may have held some 24 million; South America about the same number. The Caribbean islands alone held 3–7 million. By contrast, North America (without Mexico) held a mere 2–3 million. Unfortunately, the story has been too often told from a North American perspective and with a rather late beginning. In fact, the Pristine Myth itself originated in later centuries among European settlers whose evidence for an empty wilderness was not an un-peopled landscape, as they assumed, but a depopulated one. As best we can tell, before the conquest, there were no frontiers. Civilizations and tribes jostled one another everywhere. The empty American frontier was created, not discovered, by the conquest.

Likewise, what would become Latin America was dotted with significant urban centers. The Aztec cities of Tenochtitlán and Texcoco, in the Valley of Mexico, each had more than 200,000 inhabitants, larger than contemporary Paris, London, or Lisbon. Zempoala, to the east of Mexico, had 100,000. Inca Cuzco held 50,000 within its constricted city limits, and that many again within a day's walk. In Spain and Portugal, there were no cities comparable in size to those of America, and during the three succeeding centuries of the colonial era, the Iberians built no enduring colonial city that could match them for size. In 1492, the Valley of Mexico had 1 million inhabitants, to use the more conservative estimate. Although the valley would embrace