The Passage to Cosmos

ALEXANDER VON HUMBOLDT and the Shaping of America

LAURA DASSOW WALLS

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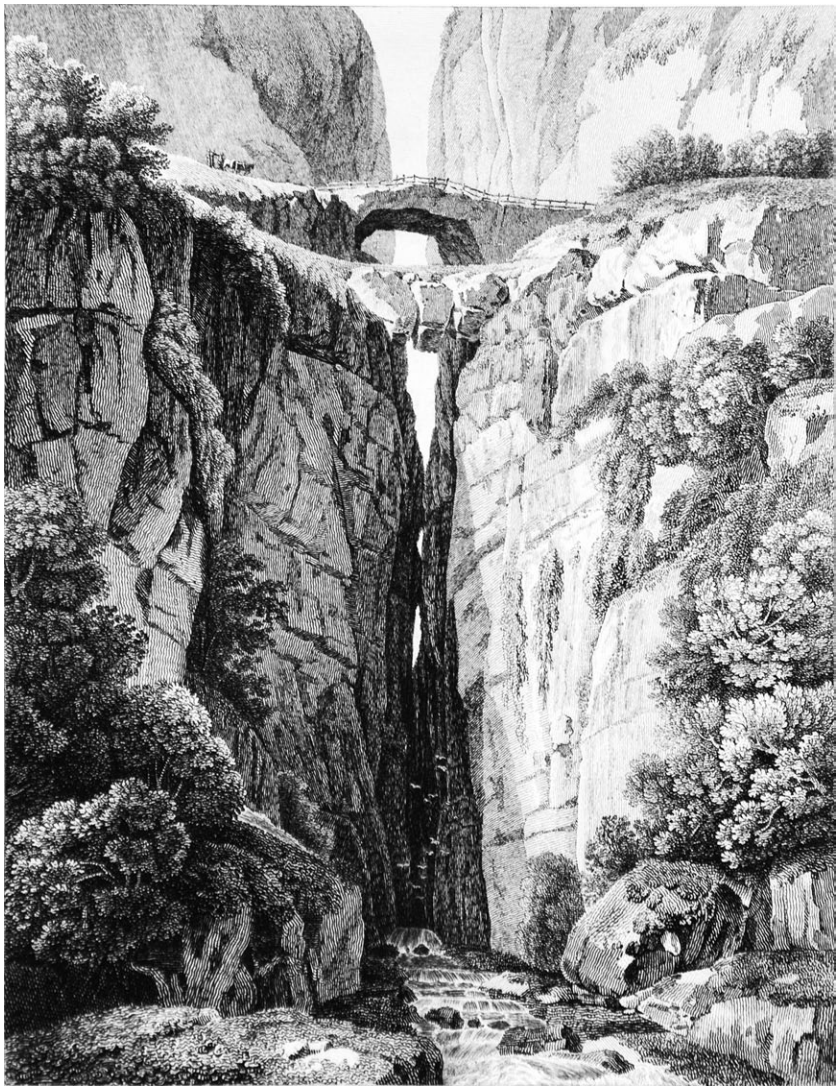

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Preface: Romancing the Ruby-Crowned Kinglet

Every poet has trembled on the verge of science.
HENRY DAVID THOREAU

This book was born from a very small death at a laboratory bench, more years ago than I care to remember. I grew up near Seattle on an island now home to CEOs, doctors, and Microsoft millionaires, but then a suburb of modest houses tucked into a mature second-growth forest of Douglas fir, maple, hemlock, and western cedar. I wanted to be a scientist, which to me, immersed in Jane Goodall and Niko Tinbergen, meant a natural historian. I spent endless hours learning the birds and plants of Puget Sound and weaving them into a 1960s-era ecological matrix of climax forests, disturbance, and succession, edge effects, sandy uplands, and moist ravines. All this led me to the University of Washington, where as an eager freshman I knocked on various doors until one of them opened: an ornithologist agreed to put me to work as his assistant. My first taste of heaven was setting to rights the natural history museum's musty drawers of stuffed bird skins and boxes of bird bones. Months later, that task completed, he taught me how to prepare bird skins, and I learned the delicate art of unzipping the fragile songbird body from tail to beak, folding feathers out of the way and replacing flesh with rolls of cotton. He was particularly keen to prepare as many specimens as possible of a certain sparrow for a statistical study of plumage patterns.

But one day something different came in. It was a ruby-crowned kinglet. I'd seen them in the wild, quick drab puffs of greenish-gray, but I'd never held one in my hand before. He was freshly dead, tiny, a mere tuft of down. And beautiful, so beautiful I was shocked to tears—softly shaded olive browns, elegant to the last detail, topped with that brilliant jewel-bright ruby crown. Every feather was an astonishment. I held that kinglet in my hand, bewildered, and something inside me broke. I understood my professor's need for data points, but what I beheld asked another and very different question. I

didn't know then just what it was, or how to begin to search for an answer, but I did know that my path had changed. I worked a bit longer at the museum, until the day they told me my volunteer labor had proven the need for a paid assistant, a position for which I no longer qualified. After an agonized review of the university catalogue I changed my major to English. I had never taken an English course, but I loved to read and write, and of all the majors it seemed most likely to accommodate that grab bag of classes my curiosity demanded: botany, geology, animal behavior, scientific illustration, anthropology, history. So I analyzed novels and wrote poetry, and when it came time to specialize, I turned to the writings of Henry David Thoreau. I sensed that he, too, had beheld that kinglet, and asked not what statistical set this data point might fill, but that other question, Why should such things be? And what must one do about it? I felt Thoreau spoke directly to me when he wrote, "Every poet has trembled on the verge of science."

By what turns of history have we reached the point where a student must choose either to be, or not to be, a scientist? Why was my kinglet experienced as a fork in the road rather than a broadening of scientific truth? As an undergraduate, I was invited either to inhabit the conventions of science, or to turn my back on them: given the great tent of the sciences, one was either inside, or out. And similarly, transferring to English meant analyzing the novels of Dickens, never the metaphors of Darwin. Poets and artists lived in one world, scientists in another. How could I find a way to inhabit both? Thoreau offered one answer: toe that line between the written word and the natural world, just where each faces the other. Thoreau had also been tugged in two directions by what C. P. Snow called the "two cultures" of literature and science, but he had found a way to practice science as a poet, and to be a poet by means of the singular objects and discipline of science. It helped that "Science" in his day was not yet a big enclosed tent gathering insiders together, but more like a series of stalls in the great open-air agora of ideas, and that "Literature" then included writing of all sorts, science no less than poetry and fiction.

Where had Thoreau found the model for his own poetic science? How had he learned to hold together fields of intellectual inquiry that we intuitively believe to be separate? In graduate school I discovered that Thoreau's turn to science, like Charles Darwin's, was fired and shaped by the works of Alexander von Humboldt. I myself felt, on discovering Humboldt, a bit the same way Darwin did when he first stepped ashore in South America: "The mind is a chaos of delight, out of which a world of future and more quiet pleasure will arise. I am at present fit only to read Humboldt; he like another sun illumines everything I behold." In turn, the sun of Humboldt's life was

his guiding idea that the physical universe and the human mind were integrated halves of a single whole, and he named that whole Cosmos.[1]

Today Humboldt is forgotten in the United States, but in Thoreau's day he was the predominant intellectual of his age, the most famous scientist in the world, and, as was widely repeated, the most famous human being after Napoleon—a pairing that Humboldt, a loyal partisan of the French Revolution, despised. He grew up nourished by Berlin's liberal Jewish intellectual circles and his friendships with Goethe and Schiller; he became the bold adventurer who had explored deep into the secret empire of Spanish America from 1799 to 1804, tracing the mysterious waterways of the Amazon and Orinoco river systems and climbing Chimborazo to the top of the world (so they thought), almost 20,000 feet, a record that stood for thirty years. He seemed to comprehend all knowledge: he founded modern plant geography (the precursor to ecology), and shaped an entire university of sciences, from biological, earth, ocean, and atmospheric sciences to physics and electrophysiology to cartography, ethnology, and linguistics, even finance and economics. He founded international cooperative science; he was the first to warn the world about the link between deforestation, catastrophic environmental change, and depopulation; his work on climate change marks the beginning of awareness of global warming. Historians today call this the age of "Humboldtian Science," for few scientists in Europe, Russia, Australia, or the Americas were not captured by the global sweep of his methods or his international network of correspondents. His most famous scientific disciples in the English-speaking world were epoch-making: Charles Lyell, who revolutionized geology, and Charles Darwin, who built on Humboldt and Lyell to found evolutionary biology. Humboldt was the catalyst for modern science. As the German physiologist Emil Du Bois-Reymond is said to have said, "Every scientist is a descendent of Humboldt. We are all his family."

In Latin America, Humboldt continues to this day to be celebrated and studied, for there he is still seen as a founding pan-national hero, something like Washington, Jefferson, and Lewis and Clark rolled together, "Liberator of peoples / And herald of Bolívar."[2] In Europe, Humboldt studies are a thriving industry, and each year sees the publication of new works on him and new editions of his writings. But oddly, the United States have forgotten him. How ironic: nineteenth-century Americans prided themselves on living in the very republic that was the unique realization of Humboldt's ideals, and Humboldt reciprocated by declaring himself "half an American" and involving himself deeply in the fortunes of the United States, corresponding with Thomas Jefferson, Albert Gallatin, and dozens more, and mentoring or inspiring writers such as Washington Irving, the historian William Hickling

Prescott, Susan Fenimore Cooper, Henry David Thoreau, Edgar Allan Poe, Walt Whitman, and John Muir, explorers and artists such as Joseph Nicollet, John C. Frémont, George Catlin and Frederic Church, and scores of scientists, including Louis Agassiz, who on Humboldt's recommendation came to Boston and stayed to revolutionize American science. More places were named after Humboldt in the United States than in any other country in the world. Yet in the twentieth century, U.S. Americans cast Humboldt onto the dustheap of antiquarian memory. Today he figures either trivially as a footnote (often confused with his brother Wilhelm, the linguist and philosopher who founded Berlin's Humboldt University), or ingloriously as yet another imperialist stooge. The myth of American exceptionalism carries a steep price. In casting away Humboldt, U.S. Americans have cut a cord connecting nineteenth-century intellectual, political, artistic, and scientific culture, unraveling a network that interlinks the antebellum United States to the rest of the globe, and severing access to his key concept, "Cosmos," the very foundation of modern environmental thought. Had Humboldt been my teacher, my youthful encounter with the kinglet would have led me toward, not away, from science.

That U.S. American literary and cultural studies have remained oblivious to Alexander von Humboldt is a scandal exactly equivalent to analyzing Romanticism without Goethe, naturalism without Darwin, modernism in ignorance of Einstein, or postmodernism without Heisenberg. Most of you who read that sentence will be skeptical. I can only enjoin you to suspend judgment and read on. There is some reason for such ignorance: since few Americanists are fluent in Spanish, German, and French, only a slender stream connects U.S. American historical, literary, and cultural scholarship with the broad currents of Humboldt scholarship flowing through Latin America and Europe. Several of Humboldt's most important works have yet to be translated into English, and the translations that do exist sound antiquated and stiff to modern ears (and are available only in rare and brittle nineteenth-century editions or expensive reprints).[3] Biographies of Humboldt in English are outdated, derivative, and frequently inaccurate.[4] Such ignorance has become self-perpetuating: every Americanist quite reasonably concludes that if Humboldt were worth bothering about, someone would have told them so.

We in the twenty-first century need to reclaim Humboldt. The goal of this book is to suggest why—by recalling Humboldt out of oblivion and asking, in a preliminary way, how our view of U.S. American literary and intellectual culture might change if seen from a Humboldtian perspective. When Humboldt looked to the horizon he saw America, and beyond, Cosmos. Recovering his cosmopolitan and multidisciplinary prospect means, first, resituating

"America" into a lively and contested global field of ideas, actions, and interests. It also means revisioning science as an intrinsic constituent of the humanities, reading beyond the "two cultures" to grasp a worldview that knew how to distinguish the natural and social sciences, the arts, and the humanities, but knew also how fully each interpenetrated all the others. Poised on the brink of modernism, Humboldt felt the winds shifting and tacked to sail before them, toward a horizon that still has not been reached. He cast his life and his books as journeys, and offered passage to Cosmos to all who could read.

If we choose to recall Humboldt's Cosmos, to recall what historical memory has lost, have we simply refined our understanding of our own past? Or have we gained a usable insight into the interrelationship of mind and nature, intellect and feeling, environmental and social justice? Before modernity could come into being it had to kill and dismember Humboldt's Cosmos. Now that modernity has fallen away into the past and the cheap thrills of postmodernity have worn thin, could remembering Cosmos help us forge a path to our uncertain future?

The book that follows makes no pretense to being definitive—an impossible task for a study that, to follow where Humboldt leads, must embrace disciplines far afield from my own specialty in American literature. Furthermore, I write as an Americanist trained to keep rigorously within the bounds of America. This is changing fast, for exciting work is being done today to globalize American literary and cultural studies, but to do this work well requires retraining ourselves to embrace scholarship in multiple disciplines and in languages other than English. That my own competence is so limited is this book's greatest limitation but also, I hope, its greatest strength: by showing that, even within this limitation, one can see so much cause to rethink the story we have been telling will, I devoutly hope, provoke others to take up where I leave off. If in a few years new writing and scholarship has rendered this book obsolete, it will have done its work.

Acknowledgments

I feel blessed, in our era of forgetting, to have found Humboldt at all, and for this I must thank Lee Sterrenburg at Indiana University, who back in 1988, in a graduate seminar on Darwin, put before us excerpts from Humboldt's works and encouraged me to believe that Humboldt really was the most exciting writer of the nineteenth century—excepting, of course, Darwin himself. Fred Churchill further encouraged my dawning obsession and in the two decades since, I have accumulated too many debts to count. A semester's fellowship from the National Endowment of the Humanities allowed me to begin researching this book in September 2001; thus this book, conceived in peace, is scored by the trauma of 9/11 and all that followed. My friends at Lafayette College were the first sounding boards for this project, and a deeply appreciated research professorship from the University of South Carolina allowed me to start writing. Strachan Donnelley, the maverick and visionary philosopher who founded the Center for Humans and Nature, believed in this project from the first. During its darkest hour, it was he who opened the passage to Cosmos by sponsoring the CHN fellowship that allowed me to finish the draft. Humboldt's spirit lived on in Strachan, and I hope that some of his generosity, boundless curiosity, and spirit of intellectual adventure lives on in these pages. To him, my most profound thanks, and to all the Fellows at CHN, that interdisciplinary "worldview boot camp"—Paul Heltne, Ron and Joan Engel, Bruce Jennings, Brooke Perry Hecht, Curt Meine, Wes Jackson, Bill Viteck, Bill Bailey, Bruce Coull, and so many others: thank you, all. You have been my best audience.

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I owe a debt of gratitude to many librarians and archivists: Patrick Scott and Jeffrey Makala opened to me the exceptional and largely unknown Humboldt collection at the University of South Carolina's Cooper Library, and allowed me to photograph many of the plates for this book; the staff of the Boston Public Library Rare Book Room has been unfailingly helpful; much of the research was done at the Widener Library at Harvard, the American Antiquarian Society, and the American Philosophical Society, where I owe particular thanks to Roy Goodman, as well as the American Geographical Society Library at the University of Wisconsin–Milwaukee, where Jovanka

R. Ristič put before me many treasures. Translation assistance was rendered by Mary Beth Stein, Catharina Wuettig, Harris King, and Robert von Dassow. Several scholars read this manuscript at a late stage in its composition: Tom Dunlap, Aaron Sachs, Kent Matthewson, Sandy Petrulionis, and Robert Walls. Each of them saved me from egregious errors and helped guide me to what I hope they will agree are useful revisions, but, of course, the errors that remain are entirely my own. No academic book comes into existence without the patient concern of editors, who do more to shape and nurture the work of scholarship than anyone but a fellow editor would recognize: my great gratitude, therefore, to Mary Braun, who encouraged this project at a crucial stage; and to my editors at the University of Chicago Press, Christie Henry and Carol Saller, who have so blessed this work with their care and attention.

Finally, I have not traveled this path alone: my husband, Robert E. Walls, has walked it with me and stayed at my side through the darkness and weird afterlight of cancer. His parents, John and Louise Walls, have over the years offered boundless reserves of support and encouragement. My parents, John and Ethel Dassow, fostered the beginnings of this book though they did not live to see its end. My father, a chemist, bought me my first Humboldt, an old copy of *Cosmos*, and taught me that Humboldtian science never really died; my mother carried to the last the Humboldtian sense of the poetry of adventure, and it was she who showed me the Southern Cross. My godparents, John and Polly Dyer, were the first to lead me out onto high mountain trails, and whenever I put on my backpack and head into Washington's alpine country—the ten essentials all within reach!—I know that some of the first footprints on those trails were theirs. They awakened in me the love of wild places, and only now am I awakening to the historical importance of their long decades of hard work in protecting the wilderness lands of Washington State and beyond. Without them and their friends, that tough World War II generation of environmental activists, our Cosmos would be smaller and poorer. Johnny, Polly, this book's for you.

Prologue: Humboldt's Bridge

Once Alexander von Humboldt settled down in Paris after his monumental five-year journey through the Americas, he started to publish books. Among the first was a massive coffee-table extravaganza titled *Vues des Cordillères, et monumens des peuples indigènes de l'Amérique* (Views of the Cordilleras and monuments of the indigenous peoples of America). If you are ever so lucky as to find a copy, open it to the first plate, "Statue of an Azteck Priestess" (fig. 1). Crouched like a sphinx, stony, inscrutable, she gazes blankly out over your right shoulder, lips parted as if to speak. She looks vaguely Egyptian. Does this mean that the peoples of the Nile sent emissaries to the New World? Or did the Aztecs invent, on their own, similar sculptural forms? Humboldt thinks the latter, though he does note a case of genuine long-distance transmission: the pearls that ornament the priestess's forehead show that the cosmopolitan city of Tenochtitlan, located high in the Mexican interior plains, was in contact with the California coast, "where pearls are fished up in great numbers." Contemplating the statue leaves Humboldt with a congeries of questions: Why has she feet but no hands? Is she truly a priestess? A deity? Or simply an Aztec woman? Where did such imagery originate? Perhaps here is a reflection of the light from Asia that led to "the commencement of American civilization." But these questions cannot be answered. In the vacuum left by the wholesale Spanish destruction of her civilization, the words she speaks cannot be heard. She reigns, silenced, mysterious, alien yet familiar, over the entirety of Humboldt's works.[1]

Humboldt's next plate points directly to the cause of her silence and mystery (fig. 2). It shows the center of what was once her city—but now it is the center of Mexico City, a trim and elaborate European square built, as Humboldt points out, on the site of Tenochtitlan, "totally destroyed" by the

FIGURE 1. *Statue of an Azteck Priestess,* plate 1, Alexander von Humboldt, *Vues des Cordillères* (Paris, 1810). Rare Books and Special Collections, University of South Carolina Libraries.

Spanish in 1521. Not one stone was left on another, and out of Tenochtitlan's shattered buildings the Spanish quarried the materials for their new capital. Humboldt's image is therefore a palimpsest: where the square stands, there formerly stood the spacious temple of Mexitli. Behind the cathedral once stood the palace of the king of Axajacatl, where Montezuma lodged his guests, the Spaniards. To the right of the cathedral now stands the palace of the viceroy of New Spain; to the left once stood Montezuma's own palace. These specifics may, Humboldt drily remarks, interest those who study the conquest of Mexico. Here, in its opulent presence, ready to vie with the finest cities of Europe, rises an erasure of all the past, the heart of the American civilization Humboldt is attempting to resurrect. Where are its people? Humboldt admires the great equestrian statue of his patron Carlos IV in the center of the square but notes that the Indians call it "the great horse" (not "the great king"); he also notes that the four ornamental gates to the

FIGURE 2. *View of the Great Square of Mexico*, plate 3, Alexander von Humboldt, *Vues des Cordillères* (Paris, 1810). Rare Books and Special Collections, University of South Carolina Libraries.

statue's raised enclosure are kept "closed, to the great discontent of the natives." Indeed, the square itself is strikingly vacant, the inhabitants evacuated. Humboldt peoples the margins of this apparently European city not with elegant Spaniards or bustling Creoles but with a handful of "Guachinangoes," the mixed race "lower class of the Mexican people": their places destroyed, they yet remain, the erased and the excluded, strolling through the space of their ancestors, gazing on the emptiness that was their history.[2]

Next in this sequence comes the first of Humboldt's natural scenes (see frontispiece). The German scholar Ottmar Ette has remarked that in Humboldt, the ocean becomes "not the separating element but the one that engages everything into worldwide communication and connects everything."[3] Here, in *Natural Bridges of Icononzo*, is an image of separation and connection iconic of all Humboldt's work, itself a bridge between natural and human. His text tells us that in the Andean high plains it is not the mountains but the valleys that stagger the European imagination, for they carve depth into the landscape, a wild aspect that fills the soul with "astonishment and terror." Icononzo is the name of the ancient Muysco Indian village at the southern end of the valley of Pandi in the kingdom of New Granada (now known as Colombia), a valley sliced in two by this impassible gulf which yet

is bridged, twice, by the hand of nature. Down its length thunders the Rio de la Summa Paz. Humboldt believes this chasm to have been created by an earthquake, which a single stratum of compact quartzose resisted, forming a natural bridge nearly a hundred meters above the torrent below. The second, lower bridge was formed when masses of rock tumbled into the gulf in such a way as to support each other, with the middle rock forming a keystone—a fact which in time, he speculates, might have given the Indians the concept of the arch, unknown to the Americas as it was to ancient Egypt. Here in this image are natural history and human purpose united: travelers use the upper bridge to pass between the valley's northern and southern halves, and there on its flank the Indians have erected for the safety of travelers "a small balustrade of reeds."

That these bridges are natural is important: they were already inscribed in nature, principles of architecture embodied in unworked stone. But humans have discovered them and use them—and so there is that frail reed fence: Don't fall off! it cries. The artist, down in the riverbed looking up, turns utility into aesthetics, a lived experiential reality into a "view." Yet this view can exist only in imagination. True, it is based on Humboldt's own sketch, made in the field—but Humboldt sketched the bridges from the northern valley above, in a side view. The Paris artist has accomplished the impossible, vaulted us to the midst of the river far below, a place so dark and inaccessible that the only way Humboldt can see the thousands of cave-dwelling birds that live and fly in its depths is to bounce rockets off the canyon sides and glimpse them flying in the flare of artificial light.

In this view not just two but many worlds cross: the plate tectonics that split open the rock, the waters that plunge down the crevasse, the vegetation that clothes the rock walls, the birds who call this chasm home and fill it with their "lugubrious cries," the Muysco Indians who name the birds—*cacas*, Humboldt tells us—and who travel to market across this bridge, the European scientist who ventures to place the Cordilleran birds in their Linnaean genus, *Caprimulgus*, even as he records the native's speech and sketches the site in his notebook, the artist, M. Bouquet of Paris, who reimagined Humboldt's field sketch as a sublime view, the viewer who sees in this one image the braiding together of fact and beauty, science and poetry, nature and society, history poised on the present instant.

The discipline I work within is conventionally named "literature," understood to include that subset of written texts encompassing fiction and poetry and understood as "aesthetic"—expressive and emotive—rather than "scientific," objective and factual, or "political," social and contested. But Humboldt resisted the tectonic shift that was splitting the world of knowl-

edge under his feet even as he wrote and lived, and in his writings he created his own natural bridge. More: this is not a light structure thrown across like a plank to provide perilous passage between two great realms. It is pulled into place by gravity and by its weight supports the whole, becoming the keystone to Humboldt's cosmic architecture. Humboldt chose the title for his late work, *Cosmos*, with care; though it daunted him a little, he stood by it, for it allowed him to articulate both landings of his bridge: first, what Thoreau called "hard matter and rocks in place," the physical universe as it exists apart from human purpose; and second, the beauty and order of that universe, the very *idea* of the whole. The physical universe exists without us, no doubt, beyond us and other than us; but the Cosmos needs us. Only in the dance of world and mind, subject and object, does Humboldt's Cosmos come into being. It is the act of human art—as in this very image—to represent the real, not to copy or replicate it but to make it "present" to our minds and hearts and souls, an image or trace of the Cosmos realized, renewed, and revitalized in mind.

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Vues des Cordillères was a gorgeous production, but it priced itself right out of the market; only a few copies exist in the United States today. So Humboldt's friend, the English radical poet and publisher Helen Maria Williams, persuaded him to select just a few of the illustrations and republish the book in a smaller and cheaper London edition. Her translation, published in 1814 under the rather gusty title (complete with exclamation point) *Researches concerning the Institutions and Monuments of the Ancient Inhabitants of America, with Descriptions and Views of Some of the Most Striking Scenes in the Cordilleras!*, circulated Humboldt's ideas much more widely among English-speaking audiences. In any language, this was a very odd book, a jumble tossing together sculpture, costumes, mountains, buildings, hieroglyphs, waterfalls, calendars, pyramids, and geological wonders. Was there a method to this joyous, exuberant madness? Yes: each illustration is supported by an essay, and each essay references an illustration. As text and picture, theory and illustration, complete each other, so do science and art, nature and mind. The landscape cannot be understood without its people, nor can the various cultures and civilizations Humboldt documents be understood without seeing the landscape that shaped them and that they, in turn, shaped. Thus the experimental, hybrid form of this book puts on display the complex ways in which nature and culture produce each other within the historical context of Spanish colonialism. Humboldt provided a fascinating glimpse into the exotic and secret kingdom of Spain's New World colonies, and his illustrations not only

influenced the development of Latin American art, but modeled for North American scientist-explorers a new way to represent the landscapes of the American West.[4]

Humboldt periodically flashes into anger at the stupidity, barbarism, and fanaticism of the Spanish conquerors who destroyed all they touched, leveling the cities, burning the libraries, and abandoning what little was left to decay and misfortune. From the shards and fragments he attempts to piece together the moral, aesthetic, political, cultural, and religious life of pre-Columbian American Indians, centering on Mexico and the Andes and borrowing from the languages and historical traditions of their descendants. His approach is deliberately comparative. How much, he asks, do New World nations resemble those of the Old World? From whence came these peoples, with their hundreds of languages, their legends and sophisticated calendars, their technologies and distinctive religions? Most likely from East Asia, he decides, pointing for evidence to linguistic, cultural, and technological roots across the Pacific among the Tibetans and the Japanese. Yet so long ago had they migrated that American nations developed wholly new and independent civilizations, in isolation from the rest of the world. The implications were startling: civilization did not dawn once in the Old World, spreading outward from a single cradle; it had multiple centers of origin, many cradles, and one of them was in the New World. Given the affinity of the hundreds of American languages and the similarities in "the cosmogonies, the monuments, the hieroglyphics, and institutions," Humboldt is convinced that a single people entered North America from Asia to spread and diversify across two continents.[5]

Many cradles, but one people. Everywhere Humboldt looks he sees one great truth verified: "The Caucasian, Mongul, American, Malay, and Negro races" are not "insulated" from one another but form one "great family of the human race, one single organic type, modified by circumstances which perhaps will ever remain unknown." If all humanity forms one "great family," then all human works, even those that do not meet our European standards of beauty, are worthy of respect and attention, for they all tell a part of the greater human story. As Humboldt says, different nations have followed many "different roads in their progress toward social perfection," and their progress is helped or hindered not by internal, biological limitations of race but by external, or environmental, circumstances and accidents. The Americas, for instance, lacked milk-giving ruminants capable of domestication. Instead of cattle, the Asian immigrants encountered untamable musk oxen and bison, and so their road from hunting to agriculture necessarily skipped over the supposedly required "pastoral" stage, derailing the traditional doctrine that human cultures

must advance through the three "stages" of hunting, herding, and agriculture. By another trick of geography, American peoples were cut off from communication with the rest of mankind, left to struggle with a "savage and disordered nature" with no resources other than their own ingenuity. Who can wonder, then, at the apparently "rude" style or "incorrect" expression of the arts of native America? or at their slower progress? How many nations, asks Humboldt, can boast the mild climate of the gentle Mediterranean?[6]

Humboldt argues, then, that all races form one great human family, and their great diversity comes from adapting to their many and various environments. Since environment is crucial to understanding how human unity flowers into such diverse societies, the only way to understand a people is to become immersed in their landscape. Cultures cannot be judged from afar. Scholars who "never quitted Europe" say foolish things—for instance, that America is a marshy country with few animals, overrun by savage hordes. Travel allows us to overcome such prejudices, to explore the ways human and natural history shed mutual light on each other, and so Humboldt's method emerges in his book's mad scramble of nature and culture. As he declares, "An accurate knowledge of the origin of the arts can be acquired only from studying the nature of the site where they arose." Archaeological research must take into account climate and soil, the presence or absence of animals, the physiognomy of plants and of landforms, for they all influence the progress and style of human arts. Thus his landscape views are not intended as decorative but to drive forward his argument: the cultures of the mountain peoples of the Cordilleras are stamped by the massive and wild nature of their high peaks and hanging valleys. After apologizing for the book's lack of order, Humboldt ends his introduction with a frustrated but hopeful note: may his "feeble sketches" lead other travelers to visit these regions and "retrace accurately" the "stupendous scenes, to which the Old Continent offers no resemblance."[7]

Travelers came, of course, not all of them so idealistic as Humboldt. In his time, the face of nature he so loved was being remade by colonial imperialism, global capitalism, and the industrial revolution. He himself was a knowing participant, both in creating and circulating new regimes of knowledge and in helping to construct a global economy that would, he perhaps naively believed, advance the cause of freedom through free trade and the open exchange of ideas. Though his ideas and methods were co-opted by the imperialist projects of Europe and the United States, Humboldt consistently protested against the evils of colonial exploitation, particularly slavery and the oppression of indigenous peoples, and he deliberately incorporated

the voices and knowledges of ethnic and colonial peoples into his planetary project.

Humboldt attempted, in short, to create a counternarrative to the drumbeat of imperial progress, and in this attempt he effectively created what we would now call an environmental discourse. His foundational assumption was that neither humans nor nature can be understood in isolation. In his social writings, nature was never merely background but played an essential role in the development of human societies; in his natural writings, the ways various societies construct their views of nature were crucial to understanding their physical environment. For Humboldt that environment was overwhelmingly historical and spatial: though he worked some in physics and chemistry, his interests always centered on the earth and the processes that generate its forms and surfaces. His scientific methods were relentlessly inductive, for he sought to identify patterns in nature by combining and collating hundreds of measurements—myriads of data points—until out of what the Russian physical geographer Peter Kropotkin called "the bewildering chaos of scattered observations" flashed a new vision of the "harmonious whole" they described, "like an Alpine chain suddenly emerging in all its grandeur from the mists which concealed it the moment before, glittering under the rays of the sun in all its simplicity and variety, all its mightiness and beauty." Far out on the horizon, "the eye detects the outlines of new and still wider generalizations." As Kropotkin's lyrical description suggests, such quantitative work was not the enemy but the ally to poetic insight. For the Humboldtian scientist, the doing of science combined rigorous and exacting labor with the joy of poetic creation and an almost spiritual sense of revelation, as if nature borrowed the mind and hand of the scientist to describe its own most beautiful laws and structures.[8]

Generating an environmental discourse was only half the journey. To complete it meant enrolling others to the cause: in letters and mentoring relationships with young scientists and artists, salon conversations, political negotiations, the organization of scientific societies and international scientific research, and lectures and publications both popular and technical, Humboldt sought to create institutions and practices that would spread his particular way of thinking about humans and nature. In one sense he succeeded spectacularly. He virtually invented modern international science and seeded so many fields with productive new ideas that historians of science call the era "Humboldtian." However, the scientific results of his initiating efforts eventually passed him by, and by his death his predisciplinary insistence that the physical and natural sciences, economics, politics, cultural history, ethnol-

ogy, linguistics, and aesthetics all be practiced together in an environmental network of interacting discourses was resisted as heroic but impossible, fractured by the rise of specialization and standards of scientific objectivity, and suppressed as useless and old-fashioned. The old Baron, the most loquacious man of his time, was effectively silenced.

This silencing has done real damage to environmental studies, for Humboldt stands at the head of environmental and ecological thinking today. Recovering Humboldt does more than deepen our knowledge of the long foreground of such iconic figures as Henry David Thoreau, George Perkins Marsh, and John Muir—Humboldtians all. First, it locates the first global wave of environmental studies just prior to the era of scientific specialization, when scientific discourses were fluid and a single mind could still innovate in multiple disciplines across the humanities and social and natural sciences, allowing each to inform the others. Second, and more importantly, it places at the head of environmental studies an alternative narrative that closes the gap between mind and nature by demonstrating how each creates or constructs the other, a concept that, thanks to modernism's persistent dualisms, still seems novel today.

Finally, recovering Humboldt positions the first wave of environmental thinking not within a nationalistic debate over resource exploitation but within a global debate over capitalism and imperial power. The apparent roots of Anglo-American nature writing in imperial discourses of exploration have made it too easy to dismiss such writing as ideologically complicit. But the story is deeper and more complex than this. Humboldt grew up knowing that nature was the site of deeply political conflict, and his popular works deplored the tragic destruction of the civilizations of the Americas and tried to reconnect them with the global human community, by showing that colonial exploitation of the land went hand in hand with the destruction and continuing oppression of its ethnic peoples. Building on the insights of eighteenth-century colonial scientists, Humboldt became what Ramachandra Guha calls "a pioneering analyst of global deforestation," arguing as early as 1805 that cutting down forests causes climate change, and in later works attributing the alarming and inexplicable fall in water levels in both Mexico's Lake Tetzcoco and Venezuela's Lake Valencia to deforestation by the Spanish, which desiccated the landscape and caused periodic destructive floods. This cycle was made even worse in Mexico by imperial Spain's ill-informed and catastrophic attempt to reengineer Mexico City's water system, in which colonial rulers forced natives to build a massive canal to drain the upland lakes. As Humboldt documents, the folly of the Europeans ruined once-plentiful water resources

and poisoned once-fertile agricultural land, and their abusive labor practices killed untold numbers of workers and plunged the entire Indian population into poverty.[9]

Richard Grove argues that the nineteenth-century growth of natural knowledge and resulting new ecological concepts of nature were—and are—inseparable from European colonialism. Humboldt added the necessary conclusion that environmental destruction was also socially devastating: natural ecology entails social ecology. In Humboldt the two were forged together, humans and nature forming two sides of the same coin. Humboldt's work is refracted in the writings of Henry David Thoreau, who also joined the causes of natural and social justice; their separation into noncommunicating fields came later. As Aaron Sachs has recently argued, today, with social justice forming an exciting new front in ecocriticism, recovering Humboldt would open a radical environmental tradition that would link with the social justice orientation of postcolonialism.[10] Splitting humans from nature has other consequences, too: the separation of scientific from literary knowledge is now so total that leading ecocritics like Ursula Heise can see no viable connection. Academic environmental studies have "to date not established any significant links between literary and scientific approaches to the environment." Instead, literature and art have become "bulwarks" against the encroachments of science and technology rather than "sites of encounter between different types of knowledge and discourse." Even works sympathetic to science show no "conceptual bridging between scientific description and aesthetic valuation."[11]

We are back, standing, once again, on Humboldt's bridge. Two hundred years later, does it still hold? Or has it, too, broken into ruins, one more monument to a lost civilization? Let us imagine it holding. In bridging peoples, disciplines, places, and historical eras, Humboldt sought to create a zone of exchange rather than domination, a pluriform and multivocalic world that would allow humans and natures to speak through a range of representations, from scientific to social to aesthetic, augmenting the stripped-down world of scientific fact by presenting those facts as elements of a renewed and revitalized Cosmos. Humboldt tried to intervene at the discursive level—which is to say he collected, he wrote, published, and lectured, voluminously and persistently, letter by letter, essay by essay, book by book, person by person, building over seventy years a massive global network of scientific and cultural knowledge and artistic expression by which he hoped to bring natural knowledge into the public sphere as a form of liberation. In an era of bloodshed, revolution, imperial warfare, and Malthusian struggle against a nature "red in tooth and claw," Humboldt found in nature not limitation and con-

flict but freedom, justice, and harmony. His was a quixotic vision, aimed at changing the course of history, and it failed.

But not entirely. Humboldt's subversive vision of science for the people lived on in Europe (most provocatively in the work of Peter Kropotkin), and in the United States he succeeded in bringing into being a discourse, a way of speaking, about nature that we now call "environmental": namely, a planetary interactive causal network operating across multiple scale levels, temporal and spatial, individual to social to natural, scientific to aesthetic to spiritual. Darwin, one of Humboldt's closest readers, would envision an interactive network of chance and inheritance working across time and space to evolve new life forms. Thoreau, another of Humboldt's closest readers, would recast Humboldt's methods into the idiom of American Transcendentalism, thereby, with John Muir, the "American Humboldt," and George Perkins Marsh, another Humboldt convert, founding North American environmental thought. Soon this new discourse of nature would receive a name: ecology.[12] The new name designated a science, one more subspecialty in the widening panorama of natural knowledges. But before it was a science, before it could be a science, "ecology" was a discourse. It was, in fact, Humboldt's discourse. It had first to be imagined, thence to be represented, circulated, and reimagined in works of great beauty and power, from Humboldt forward, among thinkers, poets, and painters. His writings and ideas are like a rhizome, the root connecting a ramifying community: Coleridge, Darwin, Emerson, Susan Cooper, Thoreau, Whitman, and Poe; George Catlin and Frederic Church; John Muir and George Perkins Marsh; Franz Boas and Lewis Mumford. Each was moved by Humboldt's words and pictures to imagine a new way of envisioning nature, a way that stamped its mark on a distinctive American literature and art and that remains alive in American culture today.

1

Confluences

> How novel and original must be each new mans view of the universe—for though the world is so old—& so many books have been written—each object appears wholly undescribed to our experience—each field of thought wholly unexplored—The whole world is an America—a *New World.*
>
> HENRY DAVID THOREAU

Humboldt's America

John Locke tells us that "in the beginning all the world was America." In the end, thought the young Humboldt, all the world would be again—an America transformed from place to prophecy, universal freedom restored to humanity through enlightened Republican politics and the spread of science, art, and culture. He was born in the right place and at the right time to imbibe such ideas—Berlin in 1769, to a family of minor Prussian aristocracy loosely attached to the court of King Frederick the Great. Frederick's rule was in its waning years, and accounts make eighteenth-century Berlin sound unprepossessing enough, yet still, it was here that the king had for some years given refuge to Voltaire, the Enlightenment French philosopher-poet who inspired the rise of European liberal thought. While Enlightenment thinking was hardly mainstream, with the blessings of such a king, liberal ideas circulated widely among the city's intellectual elite, including the Humboldts. By the time young Alexander was a college student, he made sure to study in Hamburg, the center of *Amerikunde* (or American studies), where the political events of 1776 were being turned into an ideology that would become a pillar of nineteenth-century German liberalism. During his five years in prerevolutionary Latin America, he often measured the political discourse he encountered against the standard set by Washington and Jefferson, and before he returned to Europe he made a pilgrimage to the United States to meet the heroes of the American Revolution in person. Thus America was on his horizon from the start.

Late in life he returned to the importance of America to the development of the Cosmos: as he wrote, it was the discovery of America that planted the seeds of the Cosmos, for the land Humboldt liked to call the "new continent" opened a new sense "for the appreciation of the grand and the boundless,"

making possible "higher views" that would show humanity the interconnections of all phenomena. Columbus himself, wrote Humboldt, understood this, and "on his arrival in a new world and under a new heaven, he examined with care the form of continental masses, the physiognomy of vegetation, the habits of animals, and the distribution of heat and the variations in terrestrial magnetism"—sounding remarkably like Humboldt himself. In their turn, the Spanish writers who followed Columbus opened up important questions still unanswered: the unity of the human race amidst so many variations; the affinities of America's many languages; the migrations of plants, animals, and nations; the causes of trade winds and ocean currents, volcanoes and earthquakes. Never before, Humboldt wrote, had the sphere of ideas been "so wonderfully enlarged." Even in his own day three centuries later, such questions could still enlarge the sphere of ideas by embracing the dazzling diversity of humans, animals, plants, and natural phenomena in a single—today one wants to say "ecological"—vision.[1]

Books, journals, and newspapers across the New World hailed Humboldt as "the *second* Columbus," the scientific discoverer of America. Partly this was the appeal of coincidence: as his first biographer wondered, who better than Humboldt to write a history of Europe's fifteenth-century discoveries? "Had *he* not also gone to sea from Spain as the second discoverer of America, and had he not stood on the same spot where Columbus had landed and taken possession of the new continent?" But there were ideological reasons as well: as Alfred Stillé told the graduating class of Pennsylvania College in 1859 (just before it was renamed Gettysburg College after the Civil War battle), Columbus entering Barcelona in triumph with baskets of gold and jewels and surrounded by captive Indians did not bring gifts nearly so precious as Humboldt: "The one opened to Spain the gates of a new empire, the other revealed to the world the secrets of nature and the laws of the universe." While the one caused whole nations to be reduced to servitude, the other "paved the way for the revolutions which rendered the nations of South America once more independent." If Columbus stood for the discovery of riches leading to servitude, Humboldt stood for the discovery of knowledge leading to liberation: even as he had been inspired by the Revolution of 1776, so the *next* American revolutions were inspired, it was widely agreed, by Humboldt.[2]

Celebrating Humboldt as a "second Columbus" carried darker undertones which the celebrants worked hard to subdue, for as Stillé recalls, the transcendent achievement of Columbus was tainted by the enslavement and genocide of America's indigenous peoples. Though Stillé followed Washington Irving's popular biography (and indeed Humboldt himself) in defending the innocence of the Genovese navigator from the crimes unleashed by his

discovery, all Anglo-America rose up to condemn the Spanish conquistadors who came afterward. Indeed, the vehemence of the "Black Legend" that had grown up around Hernando Cortés and Francisco Pizarro—conquerors and destroyers of the Aztec and Inca civilizations respectively—was fanned by the guilt of those who spread it. The more bestial was the violence of the Spaniards and the more cruel their monomaniacal demands for gold, the more easily Anglo-Americans could portray themselves by contrast as agents of humanity and reason. Yet it was not an argument that stood up to close scrutiny. Whereas the Spanish government had made at least some attempt to limit and mitigate the enslavement of both Indians and Africans, the British had introduced slavery to their colonies and the Americans were perpetuating it even as they fought their war of "liberation." And whereas the Spanish had incorporated Indian populations into their colonial administration (and the French had befriended and allied with them), the English had swept them off the map and the U.S. Americans were exiling the remnants to bleak western desert lands. Colonial imperialism had much to answer for, no matter which European nation bore the weaponry.

Humboldt as the "second Columbus" seemed, in an age vexed by imperial anxiety, to redeem all this. He was the "enlightened" discoverer, the anticonquistador, hailing from a weak and fractured nation with no imperial ambitions and celebrated as the center of European learning. He traveled not with armies and weapons but unarmed and alone but for a companion or two, a guide or two, and mules laden with scientific instruments. He took not gold and silver but notes and samples—pebbles and bones, a few flowers and leaves, sketches and astronomical measurements. Of this new and innocent Columbus, all Europe could be proud. As Mary Louise Pratt observes, the naturalist as traveler could both invoke the heroism of the Conquest and provide safe distance from its depredations.[3]

Humboldt was also renowned as the most famous man after Napoleon. The two were exact contemporaries, born the same year, a coincidence that linked them at every birthday memorial. In this pairing, Humboldt continued to represent the antitype to the empire of force and bloodshed. In a poem celebrating "the Napoleon of Science" (written for the Boston Humboldt centennial in 1869), Oliver Wendell Holmes invoked Humboldt's "bloodless triumphs" that "cost no sufferer's tear! / Hero of knowledge, be our tribute thine!" Two anecdotes were widely circulated to confirm this ideology of peaceful conquest. In one, Humboldt, laden with awards and adulation after his return from America, was presented at Napoleon's court. "You collect plants?" asked the emperor. "Yes," answered Humboldt. "So does my wife," sneered Napoleon. In another brush with royalty, the young brothers

Humboldt were honored in their Berlin home with a visit by Frederick the Great. Of Wilhelm, the elder, the king is said to have asked, "Do you not wish to become a soldier?" "No, Sire," answered the boy, "I wish to have my career in literature." Turning to Alexander, the king reminded the eight-year-old of his great namesake, the "earth-conqueror." "Do you wish to be a conqueror too?" "Yes, Sire," answered Alexander, "but with my head."[4]

How was it that, three long centuries after Columbus, America still needed to be conquered by knowledge? Even after so many generations, the New World continents were still largely unknown and unassimilated into Western learning, still seen as a problem and a mystery. As J. H. Elliott pointed out in his classic study, America's very existence "constituted a challenge to a whole body of traditional assumptions, beliefs, and attitudes." The newness of the American lands, their flora and fauna and peoples, was so overwhelming that "the mental shutters came down" and Europeans retreated to "the half-light of their traditional mental world." It did not help that the Spanish colonial government refused to publish the reports and observations that came flooding back across the Atlantic, but buried them in archives, forgotten by their own administrators, while forbidding travelers of other nations from entering Spanish territory. The exception was the first scientific expedition in South America, sponsored by France and led by La Condamine from 1735 to 1744, but he and his men traveled with officials who controlled its every movement. Humboldt was faced with a wall of ignorance in Europe and North America alike of the most basic realities of Spanish America, its peoples, and cities no less than its geology and geography, flora and fauna. Much of his writing is directed against the eighteenth-century French naturalist Buffon, who (from an armchair in Paris) proclaimed authoritatively that New World life was degenerate, its climate hostile, its creatures, including its human creatures, diminished in size and potency. One of Humboldt's goals in South America was to confirm the existence of the Casiquiare Canal connecting the Orinoco river system with the continental system of the Amazon, a claim made by La Condamine on the basis of South American reports and disputed ever since. On the very eve of Humboldt's departure, the existence of the Casiquiare was finally and decisively repudiated—on paper—by learned European geographers, even as missionaries and Indians were navigating its waters, as they had been, Humboldt pointed out, for generations.[5]

When Europeans did look at the New World, they tended to see it as the mirror image of themselves, normalizing its alien beings to fit familiar patterns. Anne Bradstreet, the Puritan poet, wrote movingly of hearing nightingales (a British bird) sing in New England; Columbus, facing the Orinoco, located it on the eastern coast of Asia and decoded its meaning in Biblical

terms. As Humboldt wrote, the cool evening air, the clarity of the stars, and "the balmy fragrance of flowers, wafted to him by the land breeze—all led him to suppose . . . that he was approaching the garden of Eden, the sacred abode of our first parents."[6] The inability to see the New World on its own terms, the need to translate it into the familiar categories of European custom and religion, had serious consequences beyond the irony of Venezuelans barging groceries and mail along an officially nonexistent canal. Indigenous hierarchies were translated into European-style monarchies, so that early Virginians in Jamestown hailed Powhatan as an "emperor," even arranging a royal state marriage to ally English and Algonquin nations through the wedding of his daughter, "Princess" Pocahontas, to the adventurer John Rolfe (a union from which, in a genealogical fable like that of the Mayflower, untold millions of Americans are descended.) The Christian narrative cast Indians as minions of Satan, or else God's lost people (perhaps the descendants of a wandering tribe of Israel), justifying on the one hand genocide, on the other the missionary zeal of Christopher "Christ-bearer" Columbus and the Spanish mission system that so successfully "tamed" and clothed South American Indians, teaching them their catechism while denying them their culture. Secular narratives cast the Indians as "barbarians" (using the Greek word for uncouth outsiders, whose language sounded like "bar-bar"), or "savages" more animal than human, to be eliminated by genocide when assimilation failed. Humboldt thus broke with long tradition when he advised that Indian artifacts, however uncouth to European taste, must not be judged by the standards of classical Greece, and that Indian architecture (what little was left) ought to be valued and preserved, not treated as convenient quarries of precut stone ready for assembly into European buildings. Finally, leveling New World forests to recreate Iberian plains and English meadows had had the unintended side-effects of desiccating the climate and eroding the soil needed to grow crops. Was it not possible, Humboldt argued, to imagine America as *America*, not a diminished Europe? Did it not have its own identity, and should not its peoples be allowed to seek their own destiny?

In pursuing this argument, Humboldt as "second Columbus" discovered for Europe an America to be seen on its own terms, not as an artifact of Europe's making or an appendage to its power. As he traveled from mission to mission, he sorrowed at the vacant and beaten look of the missionized Indians, and pointed to their unchristianized fellows not as heathen or "savages," a word he repeatedly rejects, but as "independent" peoples with their own distinctive character, dignity, language, and contribution to the great human story. The Creoles he visited and worked with—the American-born peoples of European descent—were, as he reported, restless and angry under

colonial rule, and would soon claim their own independence, their own self-governed political, republican future. If African slaves and the "copper-coloured" races were prevented from full realization of their human rights, they too would rise up and throw off their oppressors, as Tupac Amaru had tried to do in Peru and the slaves had succeeded in doing in Haiti. Everywhere Humboldt went he took the temperature of the social as well as the natural climate, and he found it near the boiling point. The laws of nature, just as Jefferson had said in the Declaration of Independence, would soon assert themselves and right the injustices and imbalances in the political realm. And as for American physical nature, Humboldt found it incalculably grander and more sublime than anything Europe had to offer. Here, man had not everywhere dominated and subdued the wild, nor could he, for the destructive forces of volcanoes and earthquakes and the creative power of tropical heat and light would always make American nature an equal, if not a dominant, partner with human enterprise. As later generations would say of the United States, all America was "Nature's Nation."[7]

Thus Humboldt did far more than unlock the closed gates of the Spanish empire; he showed Americans how to imagine themselves as something more than offshoots of European ambition. This is why Humboldt became a culture hero to both Latin and North Americans, from the masses to the intelligentsia. He literally put America on the global map, positioning its history, nations, and resources in relation to the rest of the world, and drawing the detailed and extensive maps by which Americans could find, and know, themselves. He even traced the origin of the very *word* "America," hitherto a puzzle, to its source in a German mapmaker in 1507, giving it a genealogy not in Columbus's tainted legacy but in the relatively innocent explorations of Amerigo Vespucci. It was widely said (though the story may be apocryphal) that when a young Creole named Simón Bolívar met the triumphant Humboldt at a Paris salon in 1804, Bolívar remarked on "the glittering destiny of a South America freed from the yoke of oppression." Yes, agreed Humboldt—if only someone could be found capable of leading its war for liberation. The rest is, as they say, history: in 1810 Bolívar led the Venezuelan revolution, starting a movement that he carried over the next fifteen years to Colombia, Ecuador, Peru, and Bolivia (named in his honor), and that spread to Mexico in 1821.[8]

For their part, U.S. Americans also felt uniquely bonded to Humboldt. When he called himself "half an American," U.S. Americans were pleased to think he was claiming fellow citizenship in their republic, an interpretation made all the easier by their success in appropriating the term "America," which covered two continents, for their own nation. As Edward Everett

declared, eliding the difference between North and South, "His American voyage—was performed on the soil of *this* continent." There was some justice here, for Humboldt did praise the United States as the pattern for humanity's future and befriended dozens of influential U.S. Americans, starting with President Jefferson. Once the mail steamers from New York to Bremen made travel to Germany routine, it seemed every U.S. traveler on his grand tour stopped in Berlin to visit the aging Humboldt, and of all the foreign students in Berlin at the time of Humboldt's death, only the U.S. Americans marched in his funeral procession. By then much of their country had been named for Humboldt—towns, counties, rivers, lakes, parks, marshes, caves, forests, eventually a university, and very nearly the entire state of Nevada. Humboldt had aided their "manifest destiny" through his maps and advice, and when the United States invaded Mexico, President Polk's secretary of war, the historian George Bancroft, was anxious to secure Humboldt's blessing.[9]

It could even be said that Humboldt was the father of modern America. Mary Louise Pratt, in the single most often cited treatment of Humboldt by a U.S. American, is fascinated to discover that his journey and the monumental volumes of print it produced "laid down the lines for the ideological reinvention of South America" on both sides of the Atlantic. On the European side, Humboldt opened prospects "of vast expansionist possibilities for European capital, technologies, commodities, and systems of knowledge." On the American side, newly independent Creole elites found in his writings the resources to reinvent themselves, in relation both to Europe and to the "non-European masses they sought to govern." As Pratt argues, Humboldt's impact on the public imagination was made less through his technical writings than his popular books, widely read, reviewed, and discussed in journals and periodicals starting in the 1810s: *Ansichten der Natur* (or *Views/Aspects of Nature*, first published in 1808 but not translated to English until the third edition of 1849); *Vues des Cordillères, et monumens . . .* (*Views*) (1810, translated 1814); and *Relation Historique*, the narrative of his American travels (1814–25, translated as the *Personal Narrative* between 1818 and 1829 and again in 1852). She could have added his *Political Essay on the Kingdom of New Spain* (1808–11, trans. 1811), the book that first made Humboldt's name a household word and that had particular impact on the United States; also the American edition of *Political Essay on the Island of Cuba* published in 1856 that started a public controversy and played a role in that year's presidential election, and of course *Cosmos*, whose multiple volumes flooded the market starting in 1845. In short, from the 1810s through the 1860s a veritable tidal wave of publications made Humboldt a celebrity across Europe and the Americas. As Pratt observes, in these "bold discursive experiments," Humboldt sought

not only to reinvent popular imaginings of America but "of the planet itself," heading off the emerging split between objective and subjective knowledge, "science and sentiment, information and experience."[10]

Here Pratt is exactly right: what made Humboldt so enormously attractive, apart from the sheer romance of his travels, was the newness of his approach to narrating those travels. Humboldt blended an Enlightenment-derived certainty in the agency of reason, factuality, and precision with a Romantic's enthusiasm for feeling and poetry. His views of nature responded deeply to the emotions awakened by each region's unique natural features, from the brilliant skies of Italy to sublime equatorial mountains, endless barren plains, or the gentle meadows of northern Europe. Yet his richly particularized descriptions vaulted seamlessly from the unique to the generalized, locating individual features in the grand pattern of the planetary whole, and linking the powerful emotions of awe or wonder or delight they evoked to an ever-widening sphere of knowledge. Humboldt's science had heart. And because in his philosophy humans were an essential part of the Cosmos, his description of America as "Nature's Nation" never excluded the human, whether the indigenous peoples who were so deeply shaped by their landscape, the Europeans who so variously aided or defeated the land's potential, or himself, seeing and feeling it all for us, our representative mind and heart. Wherever Humboldt goes in the world he looks for traces of the human: New World nature was exhilarating in its vastness and power, but also, more than once, deeply terrifying, or deadly in its monotony, creating a challenge to his philosophy that Humboldt had to work to overcome. He did not call for mere daredevil explorers who saw wild nature as a stage for their exploits, nor for calculating capitalists who would cut, dig, profit, and run. Such men came, of course—how could he have stopped them?—but what Humboldt did call for were dwellers who would weave the land into their dreams, and artists who would write it and paint it, bringing their experience to those who lived in distant and far different lands.

Thus the New World that Humboldt reinvented for the nineteenth century was indeed "America as Nature," as Pratt says, but Pratt goes on to insist that Humboldt invented America as "primal" nature, emptied of human history in order, in the classic imperialist mode, to repopulate it with white European systems and goals. Her Humboldt becomes one more "imperial eye," handmaiden to colonial domination, blind to the Other and full of himself, omniscient and godlike lord of all he surveys. Her highly selective interpretation, driven by a need to privilege binary oppositions rather than pluralistic differentiations, has become canonical in postcolonial studies. The effect has been to silence Humboldt all over again. True, Humboldt cannot step very

far outside the networks of colonial power; even his attempts to do so—if one is willing to grant they were more than mere self-delusion—ultimately made it stronger, as the following chapters will show. However, to deny him the agency to recognize, protest, and on occasion even subvert those networks is to deny the moral reach of his arguments—worse, of anyone's arguments. All argument becomes complicit with merely strategic interest, all agency the passive reproduction of ideology. Unlike Pratt, I do wish to grant active moral agency to Humboldt, and by extension to anyone who, like him, becomes aware they are struggling within, and penetrated by, structures of power. As Edward Said has observed, "American identity is too varied to be a unitary and homogenous thing"—it is, in fact, split "between advocates of a unitary identity and those who see the whole as a complex but not reductively unified one." In this opposition of "two historiographies, one linear and subsuming, the other contrapuntal and often nomadic," I would place Humboldt in the latter: for him, intellectual nomad as he was, every situation was the outcome of complex, even contrapuntal, historical experience. His writing anticipates Said's further insight that "partly because of empire, all cultures are involved in one another; none is single and pure, all are hybrid, heterogenous, extraordinarily differentiated, and unmonolithic." Indeed, I take this to be the lesson of Humboldt's works, starting with the provocative jumble in *Vues de Cordillères* of empire's variously refracted and suppressed natural and cultural artifacts.[11]

There were, to be sure, plenty of "imperial eyes" stalking the New World, but Humboldt's project was different, and that difference matters. To begin with, he lacked imperial sponsorship. While the Spanish passport gave him freedom of access, he repaid this generosity by depositing his collections in Paris and London and Berlin, publishing the results in French and German, disseminating his maps to Spain's enemies, and inciting its colonial peoples to rebel or at least reform Spain's endlessly inept and destructive colonial policies. Humboldt was determinedly self-sponsored and independent, grateful for aid but beholden to no one, and he expended every penny of his personal fortune to keep it that way. But perhaps most important, he felt (and that is precisely the right word) that nature without humanity lacked meaning. Far from emptying the landscape of its human presence, it grieved him that Indians, victimized by whites, had fled their homes on the banks of the Orinoco, leaving the river empty of canoes and the jungle canopy unbroken by villages. When he did find Indian villages he delighted to report on their inhabitants: their appearance, thoughts, language, culture, manufactures, history and, most of all, their ingenious deployments of native plants. For every region he visited he described the myriad historical, cultural, and environ-

mental forces that might account for the movements of native peoples, from individuals to entire populations, and his political essays included shrewd analyses of the conflicts of interest between natives, Creoles, and Europeans. For Humboldt, a secular philosopher looking for material causes, discovery of the New World had catalyzed modernity by turning all the globe into a contact zone. From Columbus on, all histories were mingled, all worlds interlinked, all peoples cosmopolitan. For him, "America as Nature" meant nature as an equal partner with human purpose, expressed through science, art, technology, and commerce in a cosmic exchange. In short, Humboldt was a dissident who spoke out, loudly and persistently, against European imperialism and American slavery, and he was both honored and condemned as a dangerous man. Popular adulation, professional reputation, and his dense network of high-placed friends protected him to some extent from Napoleon's charges of espionage and, later, the insinuations of his enemies at the Berlin court, but his outspokenness against the Spanish government cost him dearly. Never had he thought his travels finished, and his dearest dream was to journey across Asia through the Himalayas to India, whose literature had helped form his philosophy. Year after year he laid plans to open the British Empire to his searching scrutiny, only to be thwarted by the British East India Company, who had no desire to see their own colonial policies made the butt of his next wave of books. Finally, his money spent, all he could manage was a state-sponsored and tightly controlled expedition across Russia, in 1829. "Unfortunately, we are scarce a moment alone," he complained; "we cannot take a step without being led by the arm like an invalid."[12] Rendered by then dependent on the king of Prussia for his income, he was increasingly muzzled during the reactionary years which saw European monarchies put down the Revolutions of 1830 and 1848. He withdrew into science, philosophy, and poetry, repressing and even destroying his writings of social protest.

Humboldt was not alone in his outspoken antiimperialist politics. His teachers, friends, and readings came out of what Sankar Muthu has recently identified as a "historically anomalous and understudied episode" in political thinking, namely, a tradition of late-eighteenth-century European intellectuals who attacked not merely the evils of imperialism, but its fundamental assumption of the right to subjugate other peoples. According to Muthu, key leaders of this tradition (Rousseau, Diderot, Kant, Herder—all of critical importance to Humboldt) based their critique on their view of "*humanity as cultural agency*" rather than an unchanging universal essence. That is, they saw all human beings, including indigenous peoples, as active, independent cultural agents, freely and creatively interacting with their diverse natural environments to generate "a wide plurality of individual and collective ways of

life." Cultural differences were not pathologies or departures from a true way of life but creative adaptations which pointed to "the dignity of a universal, shared humanity as fundamentally intertwined ethical and political commitments." As Muthu concludes, scholarly views of "the" Enlightenment need to be pluralized in order to do justice to this group of thinkers, whose views were not allowed to enter the mainstream of nineteenth-century political thought. Instead they were "ridiculed and defeated," and by the early nineteenth century, virtually absent.[13]

Humboldt is clearly part of this dissident and repressed tradition, which seems to have held on far longer in Germany than in western Europe, and Muthu's attempt to recapture and foreground it helps place Humboldt in relationship to the Enlightenment thought he inherited, and helps account for the peculiar distortions of his work by his followers, who with few exceptions appropriated from him what was ideologically useful for their own projects and ignored or repressed what they found inconvenient. As Aaron Sachs observes repeatedly in his recent book *The Humboldt Current*, there was a strong "current" of Humboldtian thought in the United States that can be followed throughout the course of the nineteenth century, but the radical social dimension of that thought was seldom assimilated.[14]

Thus in the United States Humboldt becomes variously a colorful explorer, a romantic adventurer, a positivist scientist, an apologist for manifest destiny, a crusader against slavery, an inspiration to the Hudson River school of painters—but less often the radical social reformer who defended the rights of the oppressed. Humboldt had learned to weave society, nature, and culture into a single complex and seamless tapestry, but in his own lifetime that tapestry was unraveled and rewoven into smaller units. He proved too big to swallow whole; a century devoted to dissecting nature had to dissect him too, diminishing the qualities that made him unique, and uniquely productive, among intellectuals. After his death, those who recalled his vision of the whole called it "old-fashioned," the product of a bygone age when the world was so small that one capacious intellect could still see it end to end, all round. What they missed was the secret of Humboldt's success: not merely encyclopedic range, but a vision, a method, and a philosophy so generative that it marked not the end of one era but the beginning of another—one not yet born.

Humboldt's Europe

It is impossible to write a biography of Humboldt, says his latest biographer: he is too expansive and many-sided, has been appropriated by too many di-

vergent groups and viewpoints, and holds too many secrets. Nicolaas Rupke's solution is to write a "metabiography," juxtaposing "clusters of characteristic features" as they have been represented by various biographers, each embedded "in the remembrance culture of any one period of political history," from the liberal democrats of 1848 who claimed Humboldt as a fellow revolutionary, through the Nazis who ignored him, to competing appropriations by the variously gay, green, global, postmodern, and postcolonial Humboldts of today.[15] This present book does not aspire to be a biography of Rupke's one-man pantheon. Yet readers will find a little biographical information helpful in placing Humboldt in relation to his time. When he packed his trunks for his American voyage, what, figuratively speaking, was in them? How did he find himself, on the fifth of June, 1799, boarding the *Pizarro* in the Spanish port of La Coruña with his companion and colleague Aimé Bonpland, shadowed by British warships just offshore? Why, and how, America?

Baron Friedrich Wilhelm Karl Heinrich Alexander von Humboldt was born in Berlin on 14 September 1769. He hated the "von," which went against his principles and which was apparently only a courtesy title for the family anyway; he signed himself simply "Alexander Humboldt." His father, Alexander George von Humboldt, had after many years in the Prussian military served as chamberlain in the king's court and developed a special, confidential relationship with him. He was in line for the position of minister upon the ascension of Crown Prince Friedrich Wilhelm II, but the family's hopes were dashed by his premature death. Alexander and his older brother Wilhelm were only nine and eleven years old. Biographers call their father an intelligent, cheerful, and charitable man. To their mother they are less kind, referring often to her emotional coldness. It was she, Maria Elisabeth von Colomb von Hollwege (descended from French Huguenots who had sought refuge in Germany), who had brought money and property into the family, and under that chill exterior she burned with ambition for her two sons. When Alexander was sixteen and still at home, a visiting friend reported to her sister that everything in the Humboldt household "is just as it was"—the same old dog asleep on the sofa, the widowed mother wearing the same "smooth, neat, and simple" hairstyle, "the same pale countenance and delicately formed features, upon which no trace of emotion is ever visible, the same soft voice, the same cold though sincere greeting, and the same unalterable faithfulness towards all with whom she is connected." For her sons, only the best education was good enough, and after her husband's death she mortgaged her property to continue to provide them with private tutors.[16]

The first of those tutors was Joachim Heinrich Campe, the German translator (in 1780) of the only book Rousseau thought appropriate for children:

Daniel Defoe's *Robinson Crusoe*, which described a man's reliance on his own ingenuity and resourcefulness during a retreat to elemental nature. Wilhelm recalled Campe's "happy knack" for stimulating the mind of a child, although Alexander was barely more than an infant when Campe departed, and it was Wilhelm, not Alexander, whom Campe took with him to Paris in 1789 to celebrate the French Revolution. But the educational principles laid out by Rousseau continued to shape the Humboldt brothers, particularly when the household was joined in 1777 by Gottlob J. Christian Kunth, a cultured, liberal, and impecunious young man who quickly became a substitute father, manager of the boys' education and of the Humboldt family estate. Rousseau had written in *Émile* that "Nature, not man" is the boy's schoolmaster, "and he learns all the quicker because he is not aware that he has any lesson to learn. So mind and body work together," each developing the other until the man achieves "the reason of the philosopher and the vigour of the athlete." Young Alexander apparently had neither. While his brother Wilhelm flourished, Alexander was "slow" at his studies and often sickly. He confessed later to a friend that his tutors despaired of his reaching even normal intelligence, and only in "quite later boyhood" did he show any evidence of "mental vigour."[17]

It was in these years that he turned to nature, dragging home so many rocks and bits of plants that his family began to call him, perhaps unkindly, "the Little Apothecary." He remembered these as unhappy years of terrible loneliness, living "among people who loved me and showed me kindness, but with whom I had not the least sympathy." Nature was both escape and redemption: cultivating the forests, meadows, and hills of Tegel, the family estate where he grew up, had been the love and continuing project of his departed father. The grounds were more than merely decorative. Tegel was a botanical garden, used as a nursery for foreign trees and shrubs, mostly from North America, and it supplied over five hundred varieties of plants to the Royal Gardens at Potsdam and elsewhere. Here young Alexander also developed his talent for art. He was promising enough that the director of the Berlin Academy of the Arts took him on as a pupil, and in 1786 his pencil copy of a Rembrandt painting hung at a Berlin art show. The same family friend who reported on the eternal sameness of life at Tegel remarked that Alexander, a "petit esprit malin" (or "clever little devil") was a remarkably talented artist, drawing heads and landscapes: "The walls of his mother's bedroom are hung round with these productions." Did she approve of his other ambition, to travel? In later years Humboldt often remarked on how he longed as a boy to follow his favorite writers to the earth's far corners: to see the great Dragon Tree of Orotava, on the Canary Islands; to behold the

Southern Cross, the constellation that dominates equatorial skies; to stand, like Balboa in Panama, on the crest of the mountains and descry the Pacific. One sees in Humboldt's reminiscences a melancholy and lonely child, walking in Rousseauian forest reveries, attempting to capture the mysteries of nature and people in drawings, dreaming of distant lands. In twenty years he would be famous across three continents for his exotic adventures and richly evocative descriptions of nature. How many lonely children grow up to realize their dreams?[18]

Alexander's world began to open up when, in 1785, he attended the popular lectures of the Jewish physician Marcus Herz on physics and Kantian philosophy. There in Herz's Berlin home Alexander witnessed the groundbreaking electrical experiments first performed by Benjamin Franklin and Count Volta. The brothers Humboldt quickly became intimate friends of the Herz family, taken up especially by Herz's young and famously beautiful wife Henriette, who taught Alexander Hebrew. The teenaged Alexander wrote long wistful letters in Hebrew to her, signing them off from "Schloss Langweil," "the Castle of Boredom." As Henriette said in her autobiography, Alexander was not merely practicing his language skills: "It was not to be thought of, that a young nobleman should confess in letters which could be read by everyone, that the society of Jewish ladies was more entertaining to him than a visit to the mansion of his ancestors." The Christian intellectuals of Berlin gathered in the homes of Marcus Herz and his friend Moses Mendelssohn (grandfather of the composer Felix) to discuss the philosophy of Kant and the poetry of Goethe, Schiller, and Lessing. Here was the center of Berlin's intellectual life, where stuffy convention could be defied in the world that the Jewish community, excluded from the common rights of European citizens, had built for themselves. Moses Mendelssohn, who had arisen from poverty and had to educate himself in secret, kept open house on Friday evenings for Jews and Gentiles alike. The Humboldt brothers were introduced to him by their mathematics tutor, who also taught Mendelssohn's two sons, Joseph and Nathan, with whom Alexander formed a lifelong friendship. It was his Jewish friends who made possible Humboldt's American travels, for it was the Mendelssohns' Berlin bank that extended Humboldt a letter of credit when another Berlin banking house withdrew it, just as he was about to board the *Pizarro*. And in turn Humboldt fought, during his later years in Berlin, for Jewish emancipation and liberalization of the laws restricting their participation in German society. In the brilliant salons of Berlin's Jewish intellectuals and socialites, Humboldt first witnessed cultural prejudice from the perspective of the oppressed and came to identify with their cause.[19]

In September 1787, the Humboldt brothers were sent to school in nearby Frankfurt, ushered by the faithful Kunth. The university's only recommendation seems to have been its proximity to mother's apron strings. It had no facilities for teaching science—no museum, botanical garden, observatory, hall of anatomy, or decent library or bookstore. Scoffed Alexander, "The Goddess of Science . . . certainly has no temple here." But that didn't matter, for his mother intended for him to study finance, not science, and in any case Alexander kept busy at his studies and discovering a new circle of friends. After a few months, Wilhelm went on to Göttingen, then the foremost university in Germany, and Alexander returned home for another year of studying Greek, drawing landscapes, and posting Hebrew letters to Henriette. His great discovery that year was botany, through his new friend Karl Ludwig Willdenow, a young man already famous for his *Flora of Berlin* and his innovative research into plant forms and their geographic distribution. Humboldt would bring him plants, and Willdenow would classify them, opening up for Humboldt a new passion—especially when plants came in from such exotic places as Japan. In a letter he gushed over the pleasures of collecting mosses, lichens, and fungi: "How sad to wander about alone! And yet there is something attractive in this solitude when occupied with nature." Yet he was not always alone; sometimes he and Willdenow wandered together, "hand in hand, through the vast temple of nature. Would you believe," asks Humboldt aghast, that out of 145,000 Berliners, there were scarcely four others who cultivated botany? Europeans assumed they already knew everything worth knowing.[20]

Finally, in the spring of 1789—the year of the French Revolution—Alexander was allowed to join Wilhelm at Göttingen, where he moved in with his roommate Count Metternich (future prime minister of Austria and another lifelong friend) and immediately joined the elite circle of intellectuals drawn to Wilhelm's extraordinary talents. Here he studied with the renowned Professor Blumenbach, still remembered today as a founder of modern anthropology and a pioneer of comparative anatomy, particularly of human racial differences. When Humboldt succeeded in shipping back a human skull from an Indian burial site in Venezuela, he made sure it ended up in Blumenbach's famous collection. He also became a student of Christian Gottlob Heyne, famous for his researches in classics and the history of civilization. More important to him, though, were the professor's family connections: it was at Heyne's home where Humboldt met Heyne's famous son-in-law, Georg Forster. This relatively brief friendship would be one of the most important of Humboldt's life.