CHAPTER ONE

Cheap Nature

It only took a day from her crime to her execution. Yet court documents don't even record her name. She lived in Tlaxcala, New Spain, and on Sunday, July 18, 1599, she smashed crosses in a church, incited Chichimec Indians to rebel against the Spanish, and killed a Tarascan Indian using sorcery. The next day she was arrested. Six witnesses testified against her. As the sun set, she was permitted to speak in her defense. She recounted her deeds and then—according to the court record—recounted a dream

of deer and they said to her not to turn away and that they were looking for her and that they did not want to appear to anyone else but her, because she was ill and they wanted to see her, and she said that she was very old the time she saw the figures and now she is young and healthy and they have taken away some cataracts that she had, and then these two figures went into a cave with her and they gave her a horse, which she has in said pueblo of Tlaxcala, and that one of the two figures was a deer that rode atop of a horse and the other deer had the horse bridled, and on that occasion she was crippled and after seeing the two figures she is well.¹

Of the crimes she committed, her dream was the worst. She might have fueled insurrection, desecrated a church, and interfered with the flow of silver from Chichimec land, but most dangerous, she offered a vision of order and nature contrary to the colonizers'. The horse was ridden not by Spanish men but by a deer—the symbol of the Chichimec: not white men astride nature, but local life upon the colonizers' life. The dreamer of this dream was guilty of calling not just for a political insurrection but for a cosmic one. She dreamed the order of the world seditiously. She was hanged as a witch later that afternoon.

It's hard to speak of this woman without knowing her name. Her killers called her a witch. That is a name she may have used for herself, albeit without its colonial venom. Even though her name was set at so little that it didn't merit an entry in the conquistadors' paperwork, it is an act of memory against forgetting that her story is told. The dreamer of this radically different ecology had to be killed, swiftly. To allow her to live would sanction an alternative to capitalism's world-ecology.

Our Chichimec woman was killed by a civilized society because her natural savagery broke its rules. This transgression, this crime, was a relatively new idea. As recently as 1330, *savage* meant "intrepid, indomitable, valiant." That positive use faded by the end of the fifteenth century, replaced with its modern one of "in a state of nature, wild." This isn't an accident. At the time of the execution of the Chichimec witch, the terms *nature* and *society* were being produced.

At the very moment when Las Casas and Sepúlveda were debating the fate of Indigenous Peoples—were they "natural" slaves?—the meaning of our everyday word *society* experienced a momentous change. Beginning in the middle of the sixteenth century, *society* came to mean not just the company we keep but

also a bigger whole of which individuals are a part.⁴ The notion that individuals are part of collective units greater than themselves isn't new—humans have long given names to and established boundaries around social groups: being part of the polis, the city, the Middle Kingdom, Christendom, the chosen people, and so on. But modern *society* has a historically unique antonym: *nature*. On the other side of "society" are not other humans but the wild. Before nation came society. Before society could be defended, it had to be invented.⁵ And it was invented through the policing of a strict boundary with nature.

In the English language, the words nature and society assumed their familiar meanings only after 1550, over the arc of the "long" sixteenth century (c. 1450–1640).6 This was, as we shall see, a decisive period in England's capitalist and colonial history. It marked the rise of the Spanish and Portuguese empires and their construction of massive New World production systems, worked by coerced Indigenous and African labor. These transformations were key elements of a planetary shift in the global center of power and production from Asia to the North Atlantic. That shift did not come fast. Europe was technologically and economically impoverished compared to civilizations on the other side of Asia, and only after 1800 did that change. China, recall, already had the printing press,8 a potent navy,9 gunpowder, and vibrant cities, 10 and it was marked by both wealth and environmental crisis.11 Where European capitalism thrived was in its capacity to turn Nature into something productive and to transform that productivity into wealth. This capacity depended on a peculiar blend of force, commerce, and technology, but also something else—an intellectual revolution underwritten by a new idea: Nature as the opposite of Society. This idea gripped far more than philosophical minds. It became the common sense

of conquest and plunder as a way of life. Nature's bloody contradictions found their greatest expression on capitalism's frontiers, forged in violence and rebellion—as the witch killing demonstrates.

We take for granted that some parts of the world are social and others are natural. Racialized violence, mass unemployment and incarceration, consumer cultures—these are the stuff of social problems and social injustice. Climate, biodiversity, resource depletion—these are the stuff of natural problems, of ecological crisis. But it's not just that we think about the world in this way. It's also that we *make* it so, acting as if the Social and the Natural were autonomous domains, as if relations of human power were somehow untouched by the web of life.

This means that we're using these words—*Nature* and *Society*—in a way that's different from their everyday use. We're capitalizing them as a sign that they are concepts that don't merely describe the world but help us organize it and ourselves. Scholars call concepts like these "real abstractions." These abstractions make statements about ontology—*What is?*—and about epistemology: *How do we know what is?* Real abstractions both describe the world and make it. That's why real abstractions are often invisible, and why we use ideas like world-ecology to challenge our readers into seeing Nature and Society as hidden forms of violence. These are undetonated words. Real abstractions aren't innocent: they reflect the interests of the powerful and license them to organize the world.

That's why we begin our discussion of cheap things with Nature. Nature is not a thing but a way of organizing—and cheapening—life. It is only through real abstractions—cultural, political, and economic all at once—that nature's activity becomes a set of things. The web of life is no more inherently

cheap than it is wicked or good or downloadable. These are attributes assigned to some of its relationships by capitalism. But it has been *cheapened*, yanked into processes of exchange and profit, denominated and controlled. We made the case in the introduction that capitalism couldn't have emerged without the cheapening of nature; in this chapter we explore the mechanics and effects of this strategy.

FARLY COLONIALISM AND NATURE

To live is to alter one's environment. Hominin evolution proceeded through a series of biological transformations—not least those engendered by fire, which reduced the energy needed for digestion and radically expanded human capacities to make worlds. While humans are an environment-making species, our organizations are fragile. Over the long sweep of history, civilizations have emerged and expanded with more than a little help from the rest of nature, and when that help is withdrawn they can crumble. Rome boomed in the centuries following the onset of the Roman Climatic Optimum (c. 300 BCE—500 CE).¹³ The Medieval Warm Period (c. 950—1250) gave a helping hand to new states across Eurasia, from Cambodia to France.¹⁴ Feudal Europe got its assist from a climate anomaly, and its crisis—and the eventual transition to capitalism—was coproduced by another climate shift.

The unraveling of European feudalism was made possible by the Little Ice Age, but not by climate alone. Feudal Europe was highly dynamic. While weather unfavorable to cereal yields was a problem, feudalism had sophisticated agricultural technologies. Beginning in the ninth century, agricultural productivity soared, new fields were claimed from the forests, and human and animal populations grew fast. European population densities were quite high by the early fourteenth century, but feudalism's systemic weakness wasn't something as simple as soil exhaustion. Feudalism crumbled because of peasants' inability to produce a bigger economic surplus for their seigneurs. Left to their own devices, peasants could have shifted from rye and wheat monocultures to a diversified crop mix that included garden produce. In western Europe that could have doubled or tripled food production. But this shift was impossible, given the seigneurs' demand for *marketable* produce that could readily be turned into cash. In an unsettling parallel with the present day, feudal lords reproduced an agricultural system that privileged short-run gains over meaningful adjustments that would have dented their income but sustained life. It is in this context that cheap nature becomes strategic. Nature and Society began to take shape in the throes of feudal crisis and the birth of early capitalism. ¹⁶

The lords' refusal to adjust precipitated an epochal crisis. As we saw in the introduction, agroecological problems enforced by lordly domination fused with climate change and demographic catastrophe to produce not only death but formidable peasant resistance. The ruling classes tried—and failed—to reenserf peasants in Western Europe. But the crisis was about more than class; it was the moment when feudalism's ecology of power, wealth, and nature stopped working. That meant something genuinely epoch making: states, lords, and merchants all had to scramble for novel solutions to restore their wealth.¹⁷

At the core of these novel solutions was global conquest, not just by guns but also by making new frontiers, at once cultural and geographical. Life and land between money and markets became ways to treat and fix crises across the span of capitalism's ecology. At the heart of this relation with nature lay profit, and its poster child is Christopher Columbus. Columbus, who crops up

in every chapter as an early practitioner of each of the strategies of cheap things, came to the Caribbean with not just the conqueror's gaze but an appraiser's eye—one sharpened in Portuguese colonial adventures off the shores of North Africa. He launched a colonization of nature as pecuniary as it was peculiar. European empires, beginning with the Spanish and the Portuguese, obsessively collected and ordered Natural objects—including "savage" human bodies—always with an eye on enhanced wealth and power. Columbus's cataloging of nature to evaluate (put a price on) it was an early sign that he understood what Nature had become under early modern capitalism. 18

Columbus channeled the strategy of cheap nature almost from the first moment that he saw the New World.¹⁹ On the eighth day of his first voyage in the Caribbean, he found a cape he named "Cabo Hermoso [Beautiful cape], because it is so.... I can never tire my eyes in looking at such lovely vegetation, so different from ours. I believe there are many herbs and many trees that are worth much in Europe for dyes and for medicines but I do not know them, and this causes me great sorrow."²⁰ He was from the outset an assessor with a keen sense of cheapness and power, able to cast his eye on nature and be frustrated that he couldn't instantly see money.

Profit didn't come just from trade, however. Nature had to be put to work. An early practical use of the division between Nature and Society appeared in the colonial reinvention of the encomienda. Originally just a claim on land, the encomienda became a strategy to shift certain humans into the category of Nature so that they might more cheaply work the land. When the Spanish crown was battling for territory in Iberia, encomiendas were a way of managing its spoils. These were temporary land grants given by the king to aristocrats so that they might

profit from estates previously occupied by Moors.²¹ In the Caribbean, encomiendas were transformed from medieval land grants into modern labor grants, allowing not just access to the land but the de facto enslavement of the Indigenous People who happened to be there. Rights of dominion came to encompass not just territory but also flora and fauna; Indigenous People became the latter. Over time, the encomienda system came to comprise a diversity of labor arrangements, combining legal coercion with wage labor.²² This meant that the realm of Nature included virtually all peoples of color, most women, and most people with white skin living in semicolonial regions (e.g., Ireland, Poland).²³ This is why in the sixteenth century Castilians referred to Indigenous Andeans as *naturales*.²⁴

THE INVENTION OF NATURE AND SOCIETY

From the beginning, humans understood they were different from the rest of nature. ²⁵ Capitalism didn't invent the distinction. Its innovation was to turn this distinction into a hard-and-fast separation—and into an organizing principle. This was a task to which intellectuals on both sides of the Atlantic contributed. René Descartes (1596–1660), about whom more below, learned basic philosophical reasoning by studying the Mexican philosopher Antonio Rubio (1548–1615). Some of the sixteenth century's most sophisticated anticolonial Christian intellectual activity, as Enrique Dussel argues, happened in the Americas. ²⁶ The English, at the same time, were developing ideas of "the savage and the civilized" in Ireland—their first colonial frontier. It's no coincidence that English rule in Ireland intensified after 1541—at the very moment when Nature and Society were assuming their familiar, current meanings. England's colonial

forces were concentrated on that notch of land on the Irish east coast around Dublin. The initial area of English colonial activity was known as the Pale. Those outside it were "savages."

The inventors of Nature were philosophers as well as conquerors and profiteers. In 1641, Descartes offered what would become the first two laws of capitalist ecology. The first is seemingly innocent. Descartes distinguished between mind and body, using the Latin res cogitans and res extensa to refer to them. Reality, in this view, is composed of discrete "thinking things" and "extended things." Humans (but not all humans) were thinking things; Nature was full of extended things. The era's ruling classes saw most human beings—women, peoples of color, Indigenous Peoples—as extended, not thinking, beings. This means that Descartes's philosophical abstractions were practical instruments of domination: they were real abstractions with tremendous material force. And this leads us to Descartes's second law of capitalist ecology: European civilization (or "we," in Descartes's word) must become "the masters and possessors of nature."27 Society and Nature were not just existentially separate; Nature was something to be controlled and dominated by Society. The Cartesian outlook, in other words, shaped modern logics of power as well as thought.

While Descartes is usually thought of as French, his perspective might just as easily be characterized as English and Dutch. Born and educated in France, he wrote most of his major works in the Dutch Republic between 1629 and 1649, when the republic was the era's greatest superpower and home to its most dynamic capitalism. These decades also saw the crescendo of a planetary ecological revolution that had begun nearly two centuries earlier, laying waste to forests from Brazil to Poland to the Spice Islands, clearing wetlands from Russia to England, and mining

the earth from the Andes to Sweden.²⁸ So pivotal were these environmental transformations, each delivering some form of cheap nature, that more than five hundred commodities were traded on the Amsterdam Bourse (the first modern stock market) by the 1650s. Descartes's revolutionary materialism was very much in step with the times.

Descartes had not stumbled upon his revolutionary philosophy all on his own. What we are calling the second law of capitalist ecology owed much to Francis Bacon (1561–1626), a philosopher widely credited as the father of modern science. (That gendered language will make sense in a moment.) Bacon was also a prominent member of England's political establishment, at different times a member of Parliament and the attorney general of England and Wales. He argued that "science should as it were torture nature's secrets out of her." Further, the "empire of man" should penetrate and dominate the "womb of nature." Science must "hound nature in her wanderings, and you will be able, when you like, to lead and drive her afterwards to the same place again.... Neither ought a man to make scruple of entering and penetrating into these holes and corners, when the inquisition of truth is his whole object." ³⁰

Bacon was a major political figure at a time when the lives of European women were being threatened, surveilled, and dominated in new—and thoroughly modern—ways. The invention of Nature and Society was gendered at every turn. The binaries of Man and Woman, Nature and Society, drank from the same cup. Nature, and its boundary with Society, was "gyn/ecological" from the outset.³¹ Through this radically new mode of organizing life and thought, Nature became not a thing but a strategy that allowed for the ethical and economic cheapening of life. Cartesian dualism was and remains far more than a

descriptive statement: it is a normative statement of how best to organize power and hierarchy, Humanity and Nature, Man and Woman, Colonizer and Colonized.

Although the credit (and blame) is shared by many, it makes sense to call this a Cartesian revolution. Here was an intellectual movement that shaped not only ways of thinking but also ways of conquering, commodifying, and living. This Cartesian revolution accomplished four major transformations, each shaping our view of Nature and Society to this day. First, either-or binary thinking displaced both-and alternatives. Second, it privileged thinking about substances, things, before thinking about the relationships between those substances. Third, it installed the domination of nature through science as a social good.

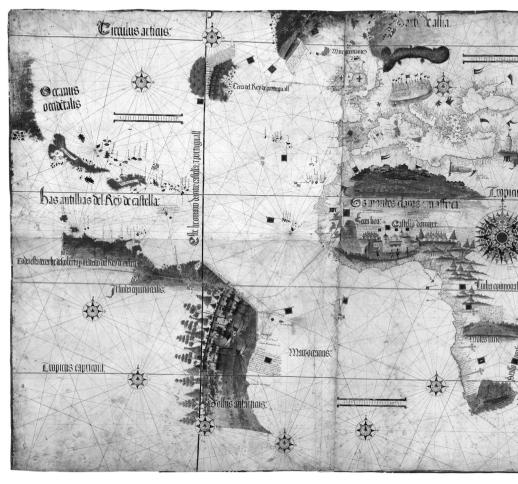
Finally, the Cartesian revolution made thinkable, and doable, the colonial project of mapping and domination. Focusing on the anticolonial Quechua writer Felipe Guamán Poma de Ayala (1535?—1616?), Dussel reflects on how Guamán, anticipating Descartes, "discovers the process through which the *ego conquiro* [I dominate/subjugate]—this expanding, self-centered subjectivity—passes, wildly overcoming all limits in its arrogances, until it culminates in the *ego cogito* [I think] based on God himself, as his own mediation to reconstruct the world under his control, at his service, for his exploitation, and among these the populations of the South."³²

Guamán's point was more than just rhetorical. Cartesian rationalism is predicated on the distinction between the inner reality of the mind and the outer reality of objects; the latter could be brought into the former only through a neutral, disembodied gaze situated outside space and time. That gaze always belonged to the Enlightened European colonist—and the empires that backed him. Descartes's *cogito* funneled vision and

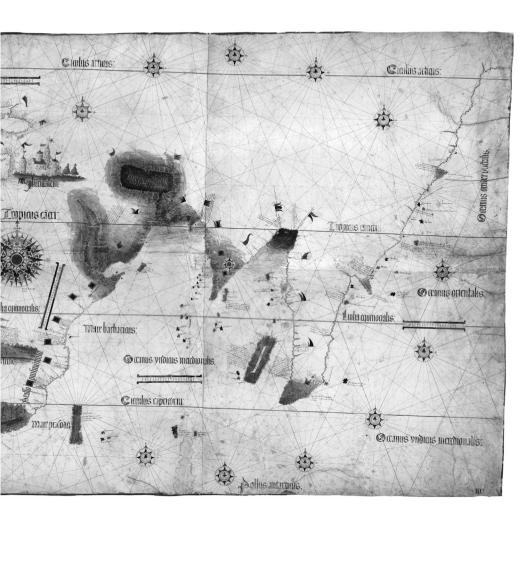
thought into a spectator's view of the world, one that rendered the emerging surfaces of modernity visible and measurable and the viewer bodiless and placeless. Medieval multiple vantage points in art and literature were displaced by a single, disembodied, omniscient, and panoptic eye.³³ In geometry, Renaissance painting, and especially cartography, the new thinking represented reality as if one were standing outside it. As the social critic Lewis Mumford noted, the Renaissance perspective "turned the symbolic relation of objects into a visual relation: the visual in turn became a quantitative relation. In the new picture of the world, size meant not human or divine importance, but distance."³⁴ And that distance could be measured, catalogued, classified, mapped, and owned.³⁵

The modern map did not merely describe the world; it was a technology of conquest. The 1502 Cantino Planisphere, the earliest surviving map of Portugal's global reach, can be understood only in terms of that tiny country's outsize ambitions. Beginning in 1503, Portugal launched a series of invasions of the Indian Ocean world, seizing over the next decade the central hinges of the ocean's lucrative trade: Hormuz on the Persian Gulf, Goa in northwestern India, and Malacca in southeastern Asia.³⁶

Sixteenth-century maps like the planisphere and the portolan charts used by sailors quickly yielded to the modern world's most famous—and still most used—cartographic technology: the Mercator projection. Gerard Mercator, whose (invented) family name translates to "merchant," lived most of his life in Flanders, in present-day Belgium, one of his era's most commercially dynamic regions. Europe's greatest geographer, he made his living by selling not maps but globes—at the beginning of a time when it became possible to think of the planet as a sphere.³⁷ Mercator's project was revolutionary in fusing the new



Map 3. Anonymous, Cantino Planisphere, 1502. Biblioteca Estense Universitaria, Modena, Italy.



cartography with the demands of rapacious and militarized commercial expansion. As Jerry Brotton reminds us,

The importance of Mercator's innovation in terms of accurate navigational practice and commercial profit was quite clear. Instead of taking awkward and imprecise bearings on board ship across the surface of a globe or a portolan chart, his new projection allowed for a line of bearing to be drawn accurately across the surface of a plane map, explicitly foregrounding ... its usefulness to the art of navigation.... With pilots and navigators in mind, Mercator went on to outline the mathematical procedure which allowed him to employ an accurate grid of straight lines across his map, whilst also retaining the relative geographical accuracy of the topography of the globe.³⁸

To conquer and cheapen global life, in other words, one must be able to map it.

NATURE, PRIVATE PROPERTY, AND LABOR

For early modern materialism, the point was not only to interpret the world but to control it. In suggesting that we "make ourselves as it were the masters and possessors of nature," Descartes offered a manifesto for (some) human minds over a Nature that included most humans at the time. The Cartesian revolution went hand in hand with two other key historical processes. One was a range of interventions that made a growing number of humans dependent on the cash nexus for their survival. Social scientists call this "proletarianization," the transformation of human activity into something to be exchanged in the commodity system—what we today call the labor market. Proletarianization was never narrowly economic; it was the product of a second historical process: the creation of new forms of territorial

power that emerged after 1450. The old territorial power—the overlapping jurisdictions and personalized authority of medieval Europe—had crumbled in the long feudal crisis (c. 1315–1453). The new empires and the internal transformations of the Low Countries and England were made possible by power of a new type. At its core was the generalization of private property.

Although Portugal pioneered a capitalist ecology, the English story better demonstrates how capitalism transformed land and labor. As grain prices stagnated—and labor became more expensive—over the fifteenth century, English landlords took advantage of the demographic collapse to appropriate vacated peasant holdings. In a process that accelerated after 1500, a growing share of the land was removed from customary use, wherein the landlords' ability to increase rental fees was limited, to a leasehold sector, where rents could be adjusted to market forces.⁴¹ Where this relatively peaceful means of land grabbing was not possible, landlords seized upon a loophole in feudal arrangements: they could impose "entry fines" upon inheritance.⁴² If a peasant—often an eldest son—inherited the land but could not pay these fines, the land wasn't his. These and other loopholes proliferated, and competitive rents set by supply and demand were increasingly imposed—rents no longer had to be "reasonable," as in earlier centuries.43

Landlords weren't simply grabbing land. They were transforming the way others could relate to Nature. Placing customary lands under a system of competitive rents reduced the commons, the areas of land in which peasants had exercised some autonomy. Commoning involves the processes of managing access to land one doesn't own, covering a wide range of rights, including those of pasturing animals, collecting firewood and construction materials from a forest, and gleaning. In addition

to these rights came responsibilities, such as stinting: refraining from collecting wood, for example, so as not to prejudice the ability to collect wood in the future. These rights and responsibilities were vital to peasant survival, allowing them to make up the difference between the season's crop and what they needed for their families to endure. As the commons receded and access to what remained became more difficult, peasants had to fill the gap some other way. Churches and other institutions for social support offered little. So peasants were forced either to leave the land or to offer the only thing they had left to sell: their labor. In this sense their labor was "free"—its sale was uncoerced by anything other than poverty and prison terms for vagrancy, the laws against poverty and vagabondage being motivationally harsh. Peasants had no choice but to sell their labor to survive.

Peasants could and did resist.⁴⁵ The first half of the sixteenth century witnessed a series of agrarian and urban riots, culminating in Kett's Rebellion of 1549, when sixteen thousand rebels seized Norwich, then England's second largest city.⁴⁶ Peasants' anger was directed not only at the enclosure of the commons and the ongoing attack on their customary rights. It also targeted the idea of competitive rent, which was "relatively new and outrageous" in the century after 1450.⁴⁷

Not for the last time, the "outrageous" quickly became normal. England's landlords would farm for cash or, more often, rent out their land to tenant farmers who did. This revolutionized production—differently from the sugar plantations of Madeira and the New World, but no less significantly. The remaking of English property transformed the relationship between humans and the ground beneath their feet. As a result, English agricultural productivity soared, and the country's non-agricultural population with it. Labor productivity on English

farms grew 75 percent between 1600 and 1700, by which point more than half of the English population worked outside agriculture.⁴⁸

The rise of private property was at once material, political. and symbolic. Cadastral surveys and state-sponsored bourgeois property relations were sites of struggle between classes and between ways of organizing humans and the rest of Nature. For the English in sixteenth-century Ireland, surveying was an important "component in the triumph of civility over savagery."49 Maps were a way to know and control Nature. Alternative forms of knowledge about Nature were seditious. This is why witchcraft and Indigenous knowledge constituted existential threats to capitalism, challenging both its epistemology and its ontology. Inca experiments in agriculture, Mesoamerican advances in soil enrichment, and Chinese medicine were forms of knowledge that had to be confined to the boundaries of folklore, if not extinguished outright.⁵⁰ Knowledge was enclosed too. If anything was to be known about Nature and the world, European men would author and authorize it.

As we've seen, the enclosure of knowledge was central to a cultural revolution that explicitly cast colonized peoples—and nearly all women—as part of nature, the better to discipline and manage them. As England intensified its rule in Ireland after 1541, imperial policy prioritized the relocation of "the wild Irish that dwell now dispersed in woods" into English-style towns.⁵¹ The Spanish pursued a similar program at greater scale in colonial Peru after 1571, resettling Andeans—naturales—in agricultural villages based on the Spanish model. The Dutch did likewise in southeast Asia after 1620.⁵² These were far from the only such initiatives in capitalism's formative centuries. They laid the foundation for a long colonial project that insisted on the expulsion of

the colonized from civilized society and on the moral necessity of empire as a school for "backward" peoples. They even justified slavery as "a school for civilization," to paraphrase the early twentieth-century historian Ulrich B. Phillips.⁵³

FAILING TO APPRECIATE THE CAPITAL OCENE

The three processes of cultural apartheid through the Enlightenment, proletarianization, and the privatization of property were at the core of capitalism's cheap nature strategy, one that turned the work of human and nonhuman alike into cheap things. But there's nothing like an ecological crisis to remind civilization that Nature is never cheap. Climate change makes it impossible to ignore planetary change in our daily lives. The intensity and frequency of "extreme weather events" in recent years have been inescapably clear. Droughts have devastated California agriculture. Residents of Basra, Iraq, saw the mercury hit 129°F (54°C) in July 2016, while parts of Iran experienced a heat index of 140°F (60°C) that month.⁵⁴ Iraq's economy may have shrunk by as much as one-fifth during its summer 2016 heat wave.⁵⁵ Indeed, rising heat stress—with lethal impacts on children and the elderly—is likely to render parts of the Middle East uninhabitable by the end of the century.⁵⁶ Unprecedented wildfires have shaken western Canada. Heat waves have killed thousands in India.⁵⁷ For Americans, the August 2016 flooding of Louisiana—driving thirty thousand people from their homes—capped off a statistically improbable run of extreme weather. The storm was a once-in-five-hundred-years event, according to the National Oceanic and Atmospheric Administration. The previous fifteen months had seen eight such storms.⁵⁸

This is what it is like to live in the Capitalocene. Certainly, previous human civilizations altered their environments. But

none were guided and governed by the strategy of cheap nature, which has allowed the transformation of the planet into Nature and Society through the subjugation of human and extrahuman life. Those who have opposed this transformation, like the Chichimec witch at the beginning of this chapter, have faced death. Indigenous People continue to resist, and continue to face slaughter—though the language of the Capitalocene tells us that such people aren't being annihilated. They're being *developed*.

Cycles of Nature into money and then into capital have brought us to this moment in geological history. That's why we need to explore the thing that Columbus desperately wanted to see when he looked at Nature, which has remained in the background of our account so far, yet without which modern capitalism would be unthinkable: cheap money.