Deep History

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The Architecture of Past and Present

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Preface

All arguments about the past are shaped by rhetorical and narrative devices. It is not just an assessment of "the facts" that helps us decide whether a historical account is convincing: facts emerge as such, and acquire their power as evidence, within narrative structures. The story of an empire's rise or a nation's collapse may be filled with dates and textual sources, which can be right or wrong, reliable or dubious; but the story's integrity as history also depends on a deeper architecture of likenesses. Empires and nations, though they consist of millions of individuals who do not know each other, are often treated as if they were physical bodies. They are born, mature, and die in history books. They have (or appear to have) character traits; they make decisions, acquire friends and enemies, form and dissolve unions. They are compared, in countless ways, to persons, families, and bodies. At a certain level we know these likenesses are metaphorical, but doing without them is difficult. When the metaphors seep into everyday usage among historical actors, we can even say that they shape the evidence and events that historians choose to write about. Metaphors determine what goes into a historical argument, what is left out, and how new forms of historical argumentation can be developed. What matters to good history writing is to develop a knowing relationship with the narrative motifs and metaphors that we employ.

This is a book about the deep history of humankind, a domain of inquiry that extends millions of years into the past. Although it might seem the perfect subject matter for historians, this vast time-space was left out of

most historical writing almost as soon as it was discovered. Humans have always been interested in their origins, but the deep past, as typically understood by modern historians, is never deeper than antiquity and is sometimes positioned in an even more recent era. Awareness of a time before antiquity became acute only in the nineteenth century, as the Darwinian revolution displaced the widely shared belief that the world was only 6,000 years old. The new age that suddenly opened up before Eden, dividing the human past into long and short chronologies, soon became the object of systematic study. Yet deep time seemed impervious to the methods of conventional historical writing, a state of affairs captured in the word coined to describe this newly remote past: *prehistory.*

As this volume demonstrates, the assumptions that initially conspired to mark off prehistory as a time before history are still very much with us. At stake is a methodology based on written evidence, along with a commitment to a powerful set of narrative motifs, most of them grounded in notions of progress and human mastery over nature. Together these commitments have made the deep past an unsettling place for academic historians. Thanks to the industrious work habits of archaeologists and paleoanthropologists, prehistory today is carefully mapped, meticulously dated, and creatively analyzed. In recent decades, discoveries about the evolution of humans and related hominid species have been accumulating thick and fast. But for all that, the deep human past remains curiously off limits to many anthropologists and historians, even to those interested in the big questions of what it means to be human. In fact, the chronological domain of the research explicitly described as historical has narrowed dramatically in scope over the past century, even as our knowledge of human prehistory has expanded. Most historical research is now concentrated in the centuries that followed the global expansion of the European powers, in times vaguely described as "modern," in societies described as colonial and postcolonial.

This volume grows out of our discomfort with this trend and our desire not only to explain it but also to create alternatives to it. We do not think that the systematic neglect of deep history among historians and anthropologists—two fields that make the human past their business—is a product of ignorance or disdain. Nor is it a simple byproduct of specialization. It arises instead from the architecture of historical arguments, from the narrative motifs and analogies preferred by the writers of history. A century ago, the simplistic notions of progress and the misapplications of Darwinian evolutionary theory that dominated history and anthropology conspired to make all premodern civilizations

inconsequential except, perhaps, as living evidence of Europe's primitive past and a way of understanding its rise to global superiority. All that has changed. Historians and anthropologists today routinely invoke a new set of patterns, such as diaspora, subalternity, hegemony, resistance, commodification, and agency, to characterize the intricate feedback patterns that accompanied the emergence of the modern world system. The triumph of the global perspective shows how, through concentrated effort, the very patterns of historical writing can be transformed. In this transformation, the formerly irrelevant is made intensely relevant not through a new set of facts but through a new set of intellectual devices for describing the arc of change. Yet the very success of the global paradigm has revealed the continuing absence of the patterns and forms that might allow us to recuperate the deep human past.

The goal of this book is to offer a set of tools—patterns, frames, metaphors—for the telling of deep histories. These include kinshipping, fractal replication, exchange, hospitality, networks, trees, extensions, scalar integration, and the spiraling patterns of feedback intrinsic to all coevolutionary processes. Skillfully deployed, these frames and the narratives and evidence they create offer a dynamic of connectedness that can render deep time accessible to modern scholarship, thereby bringing the long ages of human history together in a single story. In offering these analytical innovations, we do not insist on the jettisoning of narrative patterns that describe histories of origin, birth, or decline. Instead, we want to call attention to how these narrative devices, sometimes unwittingly, evoke transitions from nature to civilization, from biology to culture, from traditional society to modernity. These devices may work in a limited array of circumstances. As general means for the relating of deep history, however, they are highly problematic. They tend to postulate an age-old, unchanging, or primal humanity that is awakened from its slumbers by a stimulus external to this "state of nature." The external force might be culture, language, civilization, or even climate, but the creationist roots of this imagery are not hard to discern. The move from nature to culture, from prehistory to history, brings to mind the clay that is given life by the breath of God. In almost all cases, this is bad science, and it is equally bad history. There are better ways to account for change.

The editors of this volume, Andrew Shryock and Daniel Lord Smail, belong by disciplinary training to the tribe of humanists and social scientists. Even so, we share the fascination for the deep past that animates our colleagues in archaeology, human evolutionary biology, historical

linguistics, genomics, and primatology. Concerned by an apparent erosion of historical interest in eras predating the modern, and inspired by a belief that history could be written on much larger scales, we invited a number of colleagues to join us in January 2008 for a workshop at the Radcliffe Institute in Cambridge, Massachusetts, to begin discussions of how we might develop a new architecture for human history. In May 2009 a nucleus of authors returned to the Radcliffe Institute for another workshop to sketch out the chapters that appear in this volume. We decided early on not to produce single-authored chapters. Though this approach would have been more efficient and certainly less time-consuming, it would not have allowed us to achieve our aim of transcending specialization. Instead, we grouped ourselves by theme and tackled our subjects collectively, generating chapters that are genuinely transdisciplinary. By dissolving the monographic voice and developing a collaborative one in its place, we sought to escape the untidy polyphony that can mar collections of this kind. We very much hope that readers will hear unexpected intellectual harmonies in this volume. This effect is the result of many conversations, robust editing, and tremendous goodwill on the part of all involved in this project.

Our debts of gratitude go, first and foremost, to the Radcliffe Institute for hosting two wonderfully productive seminars, and especially to Phyllis Strimling and Allyson Black-Foley, who handled all the arrangements for the workshops with impeccable attention and efficiency. The participants at the first workshop included Ann Gibbons, Sarah Blaffer Hrdy, Christopher Loveluck, Michael McCormick, Gitanjali Surendran, Christina Warinner, and David Sloan Wilson; their enduring influence has shaped the volume in many important ways. Colleagues and students too numerous to name here have read proposals or chapters and helped with conceptual issues and references; we thank all of them for their enthusiasm as well as their words of advice, caution, and correction. Jennifer Gordon helped us put the illustrations in order, and Mary Birkett designed several of the book's figures. Niels Hooper, Eric Schmidt, and Erika Bűky offered wise editorial counsel. Finally, we are deeply appreciative of our entire author team, whose patience, thoughtfulness, and dedication have been exemplary. Our labors have been shared in the most profound way.

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A Note on Dates

One of the obstacles to bringing the deep past into human history lies in the diversity of customs for reckoning time and the precision that we can bring to the task. European historians have been using calendrical dating at least sporadically since Bede (d. 735) wrote his treatises on the reckoning of time, and they have used dates consistently from the twelfth or thirteenth century onward. The time revolution of the 1860s, which decisively broke the grip of the short chronology of the Judeo-Christian calendar, made deep human time a historical reality. Even so, it was a reality that remained undatable for at least a century. Instead, archaeologists and paleoanthropologists sorted early human sites, civilizations, fossils, and artifacts into chronological bins based on practices of relative or period dating that did not require absolute time scales. The edges of the bins were defined either by geological horizons (Miocene, Pleistocene, Holocene) or changes in the dominant technologies (Paleolithic, Neolithic, metal). The latter were further subdivided into coarse gradations (Lower, Middle, and Upper Paleolithic in the case of chipped-stone technologies) and even finer gradations within them (e.g. Acheulean, Magdalenian), in much the way that social scientists might speak of the interwar period (1918–40) as a subdivision of the modern era.

Nowadays, the edges of the bins are also defined using absolute dates. The dates may change either because of improvements in estimating ages by scientific means or because the contents of a chronological period are

no longer compatible with models of change and development. Similar things happen when European historians stretch the edges of the nineteenth century so as to make "the long nineteenth century," a terminology that has allowed them to conveniently bracket a historical era running from 1789 to 1914.

The use of the word *Paleolithic,* by convention, has been largely confined to European contexts. With reference to other sites, notably in Africa, archaeologists have continued to use plain English (Early Stone Age, Middle Stone Age, Late Stone Age) rather than Latin neologisms. Because the tools and technological systems on different continents do not necessarily overlap in time, and certainly did not develop in lockstep, it is particularly difficult to correlate evolutionary developments across continents. Finally, the chronology of human speciation, which has become increasingly precise thanks to better dating techniques and to genetic modeling, does not coincide neatly with dates associated with tool types and technological transitions. This is because human physiology and behavior can evolve more or less independently of one another.

When absolute time scales are used for dates, some people specify years "BP," or "before the present," the technical expression developed for radiometric dating. Others use the more casual initials "ya," for "years ago," which is consistent with the concept of BP. Because it is tedious to write out "million years" and "thousand years," these expressions are commonly abbreviated using "M" or "k" (for example, the earliest stone tools currently known date to around 2.6 Ma). Absolute dating, because it is calendrical, bears some similarity to the Common Era (or Anno Domini) system used by historians of the past two thousand years. An obvious difference between CE (Common Era) and BP is that the former counts up toward the present, whereas the latter counts down. In addition, dating systems in the archaeological literature covering the past ten thousand years or so often alternate between BCE and BP. The existence of a two-thousand-year gap between BCE and BP dates—an event that took place 10,000 BP is dated 8,000 BCE—requires a certain agility on the part of readers, somewhat like converting between the metric and Anglo-American systems of measurement.

The chronology employed by students of deep human time depends on where they work and the intellectual tribe to which they belong. Like any speakers of dialect, paleoanthropologists can easily move in and out of different conversations. To historians and some anthropologists who are used to dealing with calendrical dating, however, it can seem odd that earlier fields do not use the apparent convenience of absolute

dating more often. The reason for this is that the fields of paleontology, paleoanthropology, and archaeology developed their chronological systems long before the many innovations in radiometric dating in the 1950s that made absolute dating possible. Period dating, in point of fact, is quite useful. European historians have never ceased using words like *ancient, medieval,* and *modern,* let alone phrases like *the long nineteenth century,* to bracket interesting cultural units. In considering the structure of historical arguments, some readers might find it convenient to assume that the designations of the Lower, Middle, and Upper Paleolithic are roughly analogous with the terms *ancient, medieval,* and *modern.* Translating the terms in this way gives practitioners in one field a rough sense of how to navigate the other.

Period dating remains essential, moreover, because no paleoanthropological dating technique is ever wholly secure, even when its physical or sample requirements are met. Dates derived from the analysis of tree rings soon showed that early radiocarbon dating for some periods was consistently biased. Analysis of trapped gases in fine annual layers in ice cores from Greenland has shown us that the ratios of the different isotopes of atmospheric carbon, ratios that are so essential to radiocarbon dating, are not constant but vary in different periods. Humans' greater fuel use over time is partly to blame, but natural variations in atmospheric carbon occurred even in remote periods. Calibration curves, which are being constantly updated, allow labs to generate ever more accurate dates. Even so, radiocarbon dating does not offer the literal precision provided either by human calendars or by the natural calendars embedded in the growth rings of trees, in coral, or in the very fine layers that may form at regular intervals at the bottom of lakes or oceanic basins. Radiocarbon dating describes a *probable* date, expressed in intervals of centuries or millennia and hedged about with a margin of error. What is more, the technique is accurate only within the last 50,000 years. Advances in optically stimulated luminescence (OSL) have extended dating on sediments that contain artifacts back to 120,000 years, but the age estimates have large error margins, as do those produced by electronic spin resonance, another form of radiometric dating that can be used on dental enamel dating from as far back as 2 Ma. The techniques for dating necessarily vary as we look further back in time, and the error margins and chronological intervals typically grow larger.

In this book, we have followed the custom of using geological periods (e.g., Pleistocene) when referring to climate, geology, or environ-

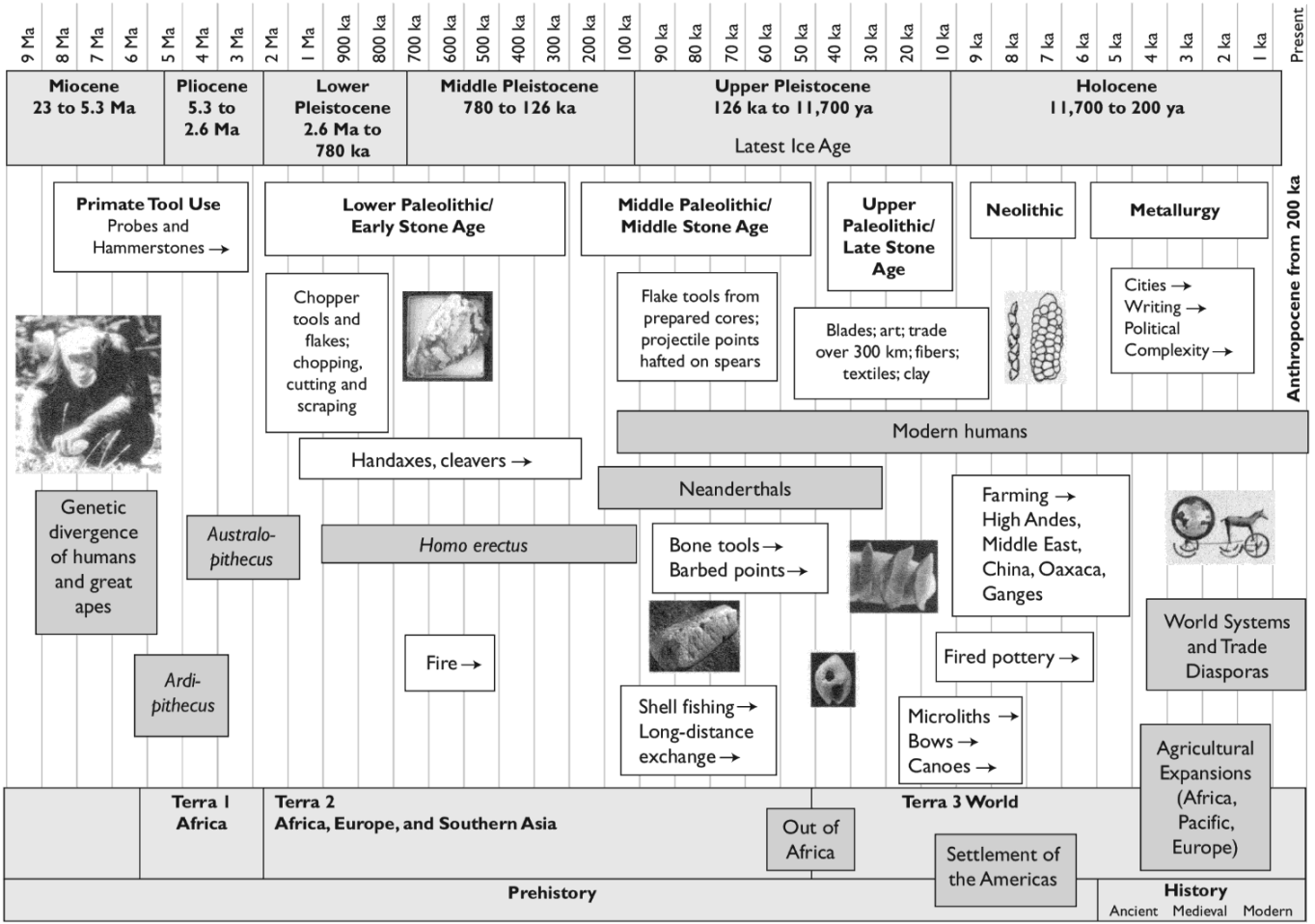

FIGURE 1. Dates in deep time.

ment, and archaeological periods (e.g., Paleolithic) when referring to human societies. Figure 1 presents a concordance of dates following different disciplinary styles, referring to periods mentioned in this book. Representing human time, of course, is a bit like representing the solar system: the spans are so vast that absolute scales cannot hope to represent the information in a readable way. For this reason, the figure adopts a log scale to represent time; that is to say, the time intervals represented on the X axis grow progressively larger the further back in time you go. Where the information itself is concerned, there is still much room for disagreement. Every new discovery is capable of pushing the known boundaries of important evolutionary developments to the more recent or the more ancient end of several time scales. Researchers at work on questions of human evolution must conceive of time and temporal boundaries with a pencil in one hand and an eraser in the other, constantly refining their assessments according to new technologies of measurement as well as new data. This is not to say that we know nothing about when things actually happened in the distant past, only that we are talking about events and processes that transpired in very deep time, for which crisp dating is seldom reasonable or even possible to expect.

PART ONE

Problems and Orientations

CHAPTER 1

Introduction

ANDREW SHRYOCK AND DANIEL LORD SMAIL

History is a curiously fragmented subject. In the conventional disciplinary structure of academia, the study of the human past is scattered across a number of fields, notably history and anthropology but also folklore, museum studies, philology, and area-studies programs. Together, these fields constitute a dense layer cake of time. The bottom layer, by far the thickest, is grounded in deep time. The deep time of a discipline is not a specific date range or era: it is simply the earliest period to which the discipline pays attention. Among archaeologists and human evolutionary biologists, deep time is represented by the paleoanthropology of the simple societies of the Paleolithic, from the earliest known stone tools (dated to 2.6 Ma) to the origins of agriculture. Among historians, the deep time of the discipline is located in Greco-Roman antiquity. Though the Paleolithic and the ancient world are dramatically offset in absolute time, each provides the bedrock that supports disciplinary narratives. The middle layers of the cake are given over to the archaeology of complex societies and, among historians, to the study of "early modern" societies. On the very top is a veneer of modern frosting. Seldom more than a few centuries deep, this upper layer is what attracts the interest of most fields of contemporary historical research and almost all fields of cultural anthropology.

The entire span of time may come together in teaching: in the grand sweep of general anthropology, say, or in survey courses of world history. In their own research, however, most scholars limit their work

to a single chronological layer and feel ill-equipped to move beyond this layer. In the great age of historico-anthropological writing of the nineteenth century, authors like Auguste Comte, Karl Marx, Herbert Spencer, Lewis Henry Morgan, and Edward Tylor ranged across vast reaches of human history, producing conjectural arguments characterized by spectacular vision and very little in the way of hard evidence. Today, the pattern is reversed. As methods of analysis improve and knowledge of the recent and deep past rapidly accumulates, the division of intellectual labor has become exceedingly precise. Conjecture and grand vision have given way to hyperspecialization, an intensified focus on ever-smaller units of time and space, and a pervasive reluctance to build analytical frames that can articulate deep history and the recent past.

A century ago, modern historiography was built on the scaffolding of progress, a story line rooted in the rise of civilization and the break with nature that supposedly took place some five thousand to six thousand years ago. This narrative enshrined a triumphalist account of human achievement. In the words of an observer from the 1920s, history describes "the processes by which the chaotic chatter of anthropoid apes has been organized in the wonderful fabric of human speech." It offers a panoramic vision of man "in every stage of his long climb up from his feeble and brutish beginnings."[1] The imagination of the age was suffused with sentiments that today seem almost unbearably trite. Cringing at such naiveté, we congratulate ourselves on having purged our anthropologies and histories of this exuberant evolutionism. But the congratulations are premature. The belief in human exceptionalism that drove earlier models of history still shapes narratives of progress, which are now told using the vocabulary of political modernization, economic development, and cultural emancipation from past prejudices. When telling these tales, we sometimes reverse the moral charges of the narrative of progress. We celebrate the merits of the simple and traditional and note the obvious dangers in the modern and complex. This stopgap solution does not eliminate the underlying problem. It leaves in place the idea that human evolution (or the emergence of culture, or the growth of historical consciousness) entails, for good or ill, an ever-increasing mastery of culture over nature, of cultivation over mere subsistence, of civilization over mere habitation. Seeing the humanity of others means recognizing their historical movement toward various forms of mastery, even if the movement is modest and still in its formative stages.

In the wake of the Darwinian revolution, the problem of human origins was transformed from a matter of speculative philosophy into a scientific research program. This transition, which required a radical reassessment of the older, biblical cosmology, was initially made intelligible by linking it to ideas of progress that had proliferated during the Enlightenment. Over the course of the twentieth century, which witnessed two world wars and the collapse of the European colonial order, historians and anthropologists grew increasingly skeptical of Enlightenment ideas, and Victorian-style social evolutionism was rejected as a justification for racism, class privilege, and global imperialism. In cleansing historical and cultural analysis of their nineteenth-century ideological baggage, most of the high modern (and postmodern) versions of cultural anthropology and history turned their backs on the deep human past, leaving problems of evolution to the archaeologists, paleontologists, and historical linguists.

The goal of this book is to remove the barriers that isolate deep histories from temporally shallow ones. These barriers have a complex history of their own, but they need not dominate future studies of the human past. Moving them aside solves multiple intellectual and political problems, and this renovation project is not as difficult as it might at first seem. The necessary analytical tools already exist. Some, like genetic mapping and radiocarbon dating, are recent innovations; others, like genealogies, bodily analogies, and predictive modeling, are older than written history itself. The gap between deep and shallow history, we believe, can easily be bridged; indeed, great efforts must be exerted simply to keep the gap in place. What motivates these efforts? How did they develop? And why do so many scholars think it is important to keep prehistory in its place?

TIME'S STRAITJACKET

The fragmentation of historical time is not inherent to the study of the past. It was produced by highly contingent historical trends that were triggered and amplified by the time revolution of the 1860s, when the short chronology, which envisioned a world roughly 6,000 years old, was abandoned as a geological truth, and human history began to stretch back into a limitless time before Eden.[2] Before the 1860s, the human and the natural sciences had constituted a single field of inquiry. This field was framed by religious tradition and organized in accord with the universalizing framework of the Book of Genesis, in which history

and geology are coeval. Knowledge production in all the societies of the Jewish, Christian, and Muslim worlds was contained within this totalizing model of creation.

Following the time revolution in Europe, however, this unified vision of human history fell apart. The chronology of the past fractured at precisely the point where human prehistory was being grafted onto ancient and modern history, which now seemed chronologically recent. By all appearances, a history long beholden to scriptural understandings of time was incapable of absorbing the fact of deep time. It is not difficult to find nineteenth-century historians who circled the wagons around the short chronology and declared the new, bottomless time to be anathema. Because respected scientists such as Georges Cuvier and Louis Agassiz refused to accept the new timeline, it is hardly surprising that many rank-and-file historians also proved skeptical—or, in some cases, openly resistant.[3] But reaction to the time revolution was generally more complex. A short chronology is not, in fact, intrinsic to the cosmology of the religions of the Near East. The authors of Genesis measured time as a succession of life spans and genealogies; the New Testament and Qur'an are devoid of what we would now call calendar dates. The short chronology was in fact an artifice retroactively imposed upon scriptural traditions. This retroactive dating occurred as generations of Jewish, Christian, and Muslim chroniclers struggled to bring sacred texts into alignment with the solar and lunar calendars they had created to keep track of ritual obligations and to record the movement of creation through time. Ironically, it was the careful work of premodern and early modern historians, not the teachings of the prophets, that gave Abrahamic chronology its brittle precision, a level of detail that could date the first day of creation to the eve of Sunday, October 23, 4004 BC. This brittleness would cause it to snap when placed under stress by the intellectual trauma of the time revolution.

In a larger sense, however, the demise of the short chronology made no difference to practicing historians. In the decades following the Darwinian turn, there were historians who looked with curiosity at the strange new terrain on the other side of Eden, and, later, historical visionaries who advocated for a reunion of deep time with history.[4] Yet the gap grew so wide that it became nearly unbridgeable. Lacking written texts, practitioners in the emergent fields of archaeology and paleoanthropology had to develop new methods of inquiry designed to tease meaning out of scattered evidence and refractory sources. The new discipline of history, in turn, adhered to the very chronology that historians had

fashioned for themselves in their vain attempts to apply a chronology to the Bible. As later chapters show, the questions that historians of the nineteenth century asked about the origins of human languages, races, agriculture, cities, and nations were often defined in specific relation to the Book of Genesis. This is hardly surprising. The European scholars best suited to become academic historians when the discipline arose in the nineteenth century were heavily invested in intellectual traditions anchored in a biblical worldview, to which a long pedagogical tradition had added Greek and Roman learning. It is hard to imagine the works of such luminaries as Leopold von Ranke or Jacob Burckhardt outside this milieu.

Yet neither inertia nor the prestige of older intellectual traditions can explain how time got bound up in the straitjacket created by disciplinary history at the beginning of the twentieth century. The decision to truncate history was a deliberate intellectual and epistemological move, bound up with the fate of the discipline itself. By the late nineteenth century, the proud new discipline of history was shouldering its way into the academy; and to justify its presence, the field adopted as its signature methodology the analysis of written documents. "No documents, no history," as Charles Langlois and Charles Seignobos declared in their 1898 manual of historical study, probably the most important of its kind.[5] The methodology they advocated sought to assess human intentions as revealed in textual evidence. Their peers used the manual to train students in the art of ferreting out the truth that lies behind the creative omissions and downright fabrications intrinsic to historical documentation. Humanity's deeper history had no documents of this kind. This critical absence of data made a deep history of humanity methodologically unthinkable.

Oddly enough, this epistemological package was also gradually accepted by cultural anthropologists, whose chronologies tend to contract whenever they attempt to historicize their discipline. The classic instance is *Europe and the People without History,* in which Eric Wolf tried to pry anthropology out of the ethnographic present in which he believed it was hopelessly stuck.[6] To bring "the people without history" into the domain of proper history, Wolf portrayed European expansion as a global interaction of human populations organized by kin-ordered, tributary, and capitalist modes of production. Wolf was not especially interested in how the kin-ordered and tributary modes had emerged in deep time; instead, he wanted to know how these modes of production were taken into a world system dominated by capitalism. As a result, al-

though Wolf's historical analysis is based on social forms that developed sequentially over tens of thousands of years, it is limited to roughly the last five centuries. The evidence he used to historicize the world's ahistorical peoples would satisfy the criteria devised by Langlois and Seignobos, and Wolf was unapologetic about the resulting Eurocentrism of his project. What one learns from "the study of ethnohistory," he noted, "is . . . the more ethnohistory we know, the more 'their' history and 'our' history emerge as part of the same history."[7]

Wolf's intent was not to cut ethnography off from its deep historical roots but rather to open it up spatially. Yet his eager embrace of a history based on textual evidence led immediately to temporal foreshortening, and his five-hundred-year frame is in fact vast when compared to the studies his work inspired. It is now virtually axiomatic that any anthropological approach advertising itself as "historical" will focus on the recent past. Its subject matter will be modern or postmodern, colonial or postcolonial. Rarely is this focus perceived as narrow. It is seen as vital, and engagement with events and societies located before European expansion, before textual evidence, is often considered politically irrelevant unless such events and societies can be interpreted—and some poststructural theorists would argue that they can *only* be interpreted—through intellectual lenses crafted during the great shift to colonial and postcolonial modernity. Otherwise they are best left to classicists, medievalists, and Orientalists. If the past in question predates the emergence of literate state societies, it falls under the jurisdiction of archaeologists and biological anthropologists, whose methods of inquiry are scientific, not historical. This pattern is visible across the academy, and attempts to disturb it quickly generate resistance on all sides.

MAN AGAINST NATURE

Why does disciplinary history, as a set of methods and motivations, so predictably conform to this epistemological grid? The blame lies with a commitment to human exceptionalism, a sensibility that survived the Darwinian revolution largely intact. As creation gave way to nature, the assumption that humans are part of nature, and that human systems are natural systems, slowly took hold in the biological and behavioral sciences. Among historians and cultural anthropologists, however, the equation of cultural systems with natural ones has never been easy, nor has it been easily historicized. Both difficulties, we believe, are related to the lingering power of the metaphors that dominated history writing in the

nineteenth century. The human story, in this worldview, is centered on the conquest of nature and the birth of political society. A passage from one of the works of the great French historian and archivist Jules Michelet (d. 1874) captures the logic perfectly: "When the world was born there began a war that will last until the world's end, and this is the war of man against nature, of the spirit against the flesh, of liberty against determinism. History is nothing but the story of this endless conflict."[8]

The claim made here was hardly new. The Judeo-Christian tradition has long celebrated human stewardship over nature. What gives Michelet's remark special poignancy is the fact that, even in his own day, there was a growing awareness that geological time was far older than human time and that human time itself might be deeper than hitherto imagined. A quarter of a century later, human time was known to be long indeed, and by the last quarter of the nineteenth century, the history of humanity threatened to merge insensibly with natural history. In this changing context of time, the need to mark the break between animal and human took on special urgency. Michelet, whose opinions on this matter reflected those of his day, had already divined the solution to the conundrum. Animals live in harmony with nature. Humans, by contrast, are at war with nature. In the pious bromides of early-twentieth-century science writing, evident in a 1912 work immodestly called *The Conquest of Nature,* "barbaric man is called a child of Nature with full reason. He must accept what Nature offers. But civilized man is the child grown to adult stature, and able in a manner to control, to dominate—if you please to conquer—the parent."[9] In this act of emancipation, in this shift from passivity to agency, history itself was created.

The conquest of nature, in turn, was tightly linked to the origins of political society. In the social thought of the eighteenth century, the natural unit had been the family—or, for some, the solitary individual. Everything humans had built on top of this natural substrate, and especially the newly insistent nation-states of nineteenth-century Europe, could be treated as historical artifices and therefore beyond nature. The history that came into being, and loudly proclaimed its own objectivity, was in many ways an apology for nationalism.[10] The new history was for the nation-states of late nineteenth-century Europe what the Torah was for the kingdom of David: a genealogy (fictitious or otherwise) designed to anchor the imagined community in the past, give it legitimacy, and lend weight to its grievances and aspirations. It is thanks to the nation-building enterprise, in fact, that we have medieval European history, for few nations (with tragic and bloody exceptions, including

Napoleonic France and Hitler's Germany) sought to identify explicitly with the empires or city-states of antiquity. If the task of history was to provide the ontogeny of a single nation, that is to say a description of how the nation was born and came, through many travails, to adulthood, there was little use for Greece or Rome—outside Greece and Italy, of course—except in the lingering sense that classical antiquity belonged to a privileged Western heritage that justified the superiority of Occidental empires. Even less use was there for the periods and social forms that predated the ancient world, except to provide a holding tank for all that was not civilized or part of the modern story—what Michel-Rolf Trouillot calls "the savage slot," a time and space set aside for the world's backward and non-Occidental peoples.[11] As subsequent chapters show, this worldview was heavily influenced by the ideas of Georg Wilhelm Friedrich Hegel, a philosopher of history who, like his near-contemporary, Michelet, saw the human story as one of hard-won progress, as a steady movement out of a state of nature into political agency and awareness.

In the twentieth century, disciplinary history began to roam well beyond the limits of the nation-state. Historians took up the history of ideas, civilizations, and economies. In addition, disciplinary history began to tackle subjects rigorously excluded from the history of nations: family, women, peasants, workers, and eventually the non-West, nonwhites, the alternatively sexual, and the differently abled. Yet history written in the Hegelian mode has had the last laugh. The history of the disempowered could have proceeded by denying agency to white male Western heteronormative political actors, the God-substitutes excised from history by Charles Darwin. But it did not. Instead, the new history has proceeded by attributing agency to subalterns located in every branch of the human family. The universal attribution of agency has become a recipe for historical research, as scholars, trapped in Hegelian logic, create new subjects by incorporating ever more voices.

Politically, the consequences of this trend have been enabling. Where the straitjacketing of time is concerned, however, the consequences have been otherwise. In the hopes of granting speech and agency to those on the receiving end of European history, we have transformed the world's subalterns into characters of a suspiciously uniform type. The very people whose inclusion was meant to be a triumph of diversity have been homogenized by theory. The accelerating pace of agency attribution, moreover, has led many into the mistaken belief that agency itself is a creation of modernity. Hegel had attributed agency to progressive males

all the way back to the origins of the state. This was the whole point of his formulation: to replace divine providence and the guiding hand of God with the far-seeing vision of wise leaders. Hegel, in other words, never escaped the instincts of sacred history; he just knocked the agent in chief down a peg. But here is the rub: the extension of agency to modern subalterns is meaningless if modernity itself was created by the powerful men of the past. To evade this paradox, one could deny Hegel's bias and extend agency to *all* past actors. But what if this gesture is practically impossible? What can one do if the vast majority of premodern historical sources were generated by the very men whose thoughts and deeds they typically celebrate? Given this paradox—a paradox that historians generated for themselves by adopting for their discipline a *textual* methodology—it is enormously tempting to pretend that the remote past belongs to nature, to a cultural reality that cannot be fully historicized, and thereafter to ignore it.

As a result of this bind, the great questions that used to cut through the layer cake of time are not being asked. Instead, historians and cultural anthropologists turn their attention to the world around them, treating it as a secular creation even newer, empirically, than the sacred world of Genesis. In recent decades, the short chronology of disciplinary history has continued to shrink. As measured by professorships, course offerings, dissertation topics, and publications, the weight of knowledge production in cultural anthropology and history is now solidly centered in the centuries after 1750, as it is in the other human sciences.[12] One measure of the erosion of historical time can be found in the tendency among historians to add metaphors of birth, origins, or roots to book titles and arguments. Use of this metaphorical complex has accelerated in the last two decades. If we could track the average birth date proposed in this burgeoning array of titles, it would in all likelihood be moving closer and closer to the present day.

THE GROUNDS FOR MAKING A DEEP HISTORY

The prospects for a reunion of the short and long chronologies within the human sciences seem rather grim, and it would be simple enough to frame this volume as a nostalgic story of loss and what might have been. Yet now, 150 years after the time revolution, the elements and frames necessary for writing a deep history of humankind may finally be falling into place. The field of big history, led by David Christian and Fred Spier, has already shown how the wholeness of time can be

woven into a compelling historical narrative.[13] Thanks in part to the biological turn, scholars in all fields are now feeling the pull of humanity's deep past. They fret about chronological constraints and issue calls for "evolutionary politics," "evolutionary economics," or evolutionary studies of the law.[14] These approaches hold promise; however, many of them have adopted a form of analysis centered on the postulate of an evolved human psychology that shapes behavior in the present day. The logic deployed is distinctly reminiscent of the logic of the orthodox, Augustinian version of Christian theology, which also proposes the existence of an abiding human psychological condition that has profound latter-day effects: original sin. Though the neo-Augustinian trajectory of evolutionary psychology evokes the past, it does not provide a history. The two are very different things. When the past is simply a repository of the "natural," it is not a historical past: it is instead a mythical or cosmological past, providing yet another mirror in which humanity can search for its own reflection. Such an understanding of the past has no room for contingency, no room for change, no way to understand the path-dependent nature of variation within systems.

It is difficult, though, to blame the purveyors of these models. Providing the missing history is the job of anthropologists and historians, not psychologists or behavioral social scientists. The chapters in this volume are designed to supply the historical frames that are, for now, absent in the new evolutionary approaches. Despite the apparent hegemony of Darwinian evolution among the educated classes, a great deal of unfinished business remains. The soft social sciences and the humanities have never really come to terms intellectually with human evolution. Early attempts to bring Darwinian models into social thought produced Victorian disasters. But the accumulation of knowledge about the human past has become so impressive that a rapprochement is needed. The natural-selection paradigm has enabled us to generate highly nuanced understandings not only of how the hominin lineage has evolved but also of how human social forms and cultural capacities have developed over long stretches of time. Many of the analytical techniques employed by archaeologists, evolutionary ecologists, and paleoanthropologists can in fact be applied to ancient and contemporary societies alike. In the anthropological sciences since the nineteenth century, the study of kinship and language has linked the short and long chronologies, and new fields, such as genomics, now allow analysts to move across great distances in time and space, following lines of genetic transmission that link living humans to ancestral populations. Absolute and relative dat-

ing techniques that first emerged in the 1950s have become increasingly precise and reliable, as have the transregional chronologies and models of long-term trends (from the development of toolkits to the transcontinental migrations of early humans) that have been worked out using these dating techniques. In short, the means to reconnect short and long histories have been in place for many years.

Meanwhile, historians have gradually abandoned the idea that the only thing to do with written sources is to sift through them in search of the motives and intentions of their authors. The skills necessary for data mining (and for reading between the lines) are now routinely taught. That unabashedly fictional sources can count as legitimate historical data is widely accepted as self-evident; few historians today find it necessary to defend the notion that literary texts serve as repositories of social logics.[15] Histories can be written from every type of trace, from the memoir to the bone fragment and the blood type. Moreover, the ongoing merger of history and social science has produced an intellectual world in which most scholars realize that intentions are social products, and the grounds for their production are largely beyond the control of individuals and their desires. In this realization, the methodological distinctions that once separated history from anthropology and archaeology all but disappear.

Yet translation problems remain. Scholars who study the deep past—let us call them *paleohistorians* for convenience—face numerous challenges when presenting their work to scholars who focus on more recent periods. These challenges include the unhelpful assumption that the deep past is best understood in relation to a fixed human nature or universal behavioral tendencies (such as "economizing," "rational choice," or "kin selection"). Also troublesome is the belief that certain cultural forms, such as "ethnicity," are quintessentially modern and that similar processes of group identification are not found in the past. Paleohistorians do daily battle with the assumption that human prehistory is marked by long periods of behavioral fixity and cultural stasis, not variety and change. In addition to these problems of misunderstanding, paleohistorians contend with difficulties inherent to their own practice. The amount of material stuff available for analysis decreases dramatically as they move back in time, a trend that generates both recognition and bafflement. Often, it is not clear what ancient human artifacts signify. Is the design scratched into a piece of bone "symbolic"? Of what? Might it be a product of boredom? Might the symbol be apparent to us, but perhaps not to the maker of this ancient object?

Also, paleohistorians must be alert to powerful notions of progress and primitivism that color their work and determine how their findings are received and put to use in wider intellectual circles. The idea that the deep human past is best treated as a variant of biological science or natural history, and that evolution describes a strictly biological process rather than a social or cultural one, is another problem that arises in the field. Yet even developments as basic as bipedalism, hairless bodies, or concealed ovulation are implicated in complex assumptions about social life. Finally, paleohistory needs narrative and reconstructive storytelling. However much we may complain about the coercive, streamlining qualities of historical narratives, they do convey information in vivid and compelling ways. Paleohistory attracts the talents of numerous science writers: this fact reflects both the mass appeal of the field and its inaccessibility and overspecialization. A judicious use of narrative is needed to bring paleohistorians into dialogue with social science and humanities scholars.

The histories we present in this volume are meant to resolve some of these translation problems. They draw on the resources of all fields of history and anthropology to present a broad-spectrum history of hominins—that is, of humans and their immediate ancestors. For reasons of convenience, this history begins about 2.6 million years ago, when our hominin ancestors began to use tools that would later enter the archaeological record; but we also situate human bodies and social forms in the larger context of primate evolution, using genetic, bone, and behavioral evidence to extend our analytical reach back 6 to 8 million years, when our ancestors diverged from the ancestors of modern-day chimps and bonobos. Despite its immense time depth, the ensuing history is surprisingly similar, in substance, form, and trajectory, to the histories framed by the short chronology, with these exceptions. First, earlier periods feel stretched out by comparison to later ones, and the study of deep history emphasizes trends and processes more than events and persons. Second, the historical processes with which we engage, often enough, are not strictly calendrical: they have a logic that transcends the time and place of concrete example. Third, the arguments presented here, although evidentiary, are seldom dependent on what historians have typically considered evidence—namely, written texts. A deep history of this kind is thick with culture and epigenesis, even as it acknowledges the crucial role of biology, which is consistently woven into our accounts of human change over time. The result is an engagement with the human past that, instead of reinstating the old Hegelian distinction between natural and

cultural existence, overturns the static imagery deployed in the nineteenth and twentieth centuries to deny historicity to the deep past.

PATTERNS AND FRAMES

If this volume can lay claim to innovation, it will lie not in matters of theory or method but in the realm of imagination. What we intend to provoke in the chapters that follow is a shift in sensibilities, and our principal tool is the reframing of intellectual practices that have been prematurely sorted into separate boxes. These practices can be thoroughly reconfigured, even unified, when they are situated within much larger spatial and temporal frameworks. The novelty at stake is best expressed as one of scale, of the level at which a story can be imagined and then told using methods and assumptions already available to scholars who study the movement of humans through deep and shallow time. To create this more broadly encompassing field of analysis, we have constructed our own master narrative. It unfolds in four parts, each of which addresses, from different angles, the patterns and frames of a deep history.

The first, called "Problems and Orientations," includes the arguments developed in this introduction, which stress the importance of deep history as an intellectual project, showing how the short and long chronologies of the human past came apart and have been kept apart by disciplinary practice. After explaining the time revolution of the nineteenth century, we suggest that historians have not yet adjusted their thinking to the reality of a deep past, and we consider the effects, desirable and problematic, of making such an adjustment now. In chapter 2, "Imagining the Human in Deep Time," we attempt to reconceive the human condition as a hominin one—that is, one that includes all the species in the genus *Homo* that are ancestrally as well as collaterally related to *Homo sapiens*. The logic that makes Neanderthals and other early hominins visible to a deep history is the same logic that has made subalterns everywhere visible to modern historical praxis. We ask what new methods and intellectual habits must be developed to deal with the immense variations in time and space that form the backdrop of hominin, as opposed to strictly human, history. We develop several orientations and base metaphors that resurface throughout the book: kinshipping, exchange, extension, hospitality, and genealogy. These concepts have always been historical in orientation and application; they can be used to create links to the past and, quite literally, to travel through time.

In the second part of our story, "Frames for History in Deep Time," we explore three frameworks in which new and old intellectual problems can be examined. Specifically, we show how humans use bodies, environments, and languages to situate themselves in deep and shallow time. Each frame consists of social technologies that facilitate human inhabitation of and movement through space. In chapter 3, "Body," we suggest that the human form is both an objective and subjective system, a historical trace and an ongoing historical project. The body connects us viscerally to the past; it is a living medium of ancestry and relatedness. In response to the suggestion that the ancient hominin body is a natural body, unlike the culturally constructed body of modernity—a suggestion that mirrors the narrative arc of creationism—we propose two alternative claims. First, throughout its existence, the hominin body has been shaped by tools, social relations, and other elements of something we typically call "culture." Second, the epigenetic forces characteristic of the modern world sculpt the body in unintended ways. Our phenotypes, thanks to their plasticity, are continuously molded by the environments we inhabit, even if that molding is not always expressed in the genome.

In chapter 4, "Energy and Ecosystems," we pursue the idea that ecosystems shape and constrain our histories, and that human intentions cannot fully explain, and often obscure, this process. The lines we customarily draw between natural and cultural systems prevent us from understanding how these spheres constitute each other. Although we have no interest in disputing the human impact on the environment that is so profound a feature of modernity, we do contest two closely related assumptions: first, that these ecosystemic effects are unique to humanity, reflecting its mastery over nature; and second, that significant effects emerged only in recent centuries. Reframing the terms of discussion, we show how major trends in ecosystemic change are influenced by coevolutionary spirals—feedback loops and conjoined patterns of cause and effect—that can be traced deep into the Paleolithic. We return to the spiral in later chapters (notably chapter 9), employing it as a key narrative device for the writing of deep histories.

In chapter 5, "Language," we show how the discovery of genealogical relationships between human languages, past and present, has played a central role in scientific and humanistic attempts to explain deep history in the modern era. The image of the tree was central to nineteenth-century philology, and it is endlessly recycled in genetic and historical linguistic research today. Alongside this powerful frame, we explore the

metaphor of the web or net. Webs direct our attention to exchange, a process crucial to the development of human languages and to recent attempts to simulate the origins of language. Because language, the body, and ecosystems are intellectual frameworks still capable of producing and organizing vast amounts of research, the three essays in this section establish the utility of deep-time perspectives for contemporary work across the human sciences.

In our third set of essays, "Shared Substance," we explore topics that have long been treated as necessary to human survival: food and kinship. These topics are of special interest to us because, as cultural systems, they create bodies, ecosystems, and languages over time. They have also left material traces—indeed, some of the oldest available to us, namely genes and isotopic data—that enable us to reconstruct events that occurred in the remote past. In chapter 6, "Food," and chapter 7, "Deep Kinship," we show how ancient forms of shared substance, and habits of sharing generally, are in fact highly adaptable processes that reveal striking transformations in what can be understood as human. Because we share our interests in eating and relating with our primate cousins, the essays in this section allow us to situate human histories within larger taxonomic contexts. We demonstrate how humans have used food and kinship to create worlds that, by comparison with other primate standards, are highly dependent on an awareness of past and present. As social projects, these shared substances are media of "kinshipping," a tactic for moving through time and space that requires networks of relationship and exchange. We argue that because kinshipping allows us to communicate across distances and to reconnect after absences, it is one of our most basic tools for making history.

In our final set of essays, "Human Expansion," we deal with a complex array of problems created and solved by the rapid spread of humans into multiple physical and social environments. In chapter 8, "Migration," we chart the most literal of expansions: the movement of hominins around the globe. This process was enabled by the cultural toolkits hominins developed in response to their own mobility in and beyond Africa. Movement and innovation were interrelated. The settling of Asia, Australia, Europe, and the Americas brought the extension of social networks, changes in foodways, and adaptation to new ecosystems. These changes played out differently in different eras of hominin evolution. Among modern human populations, who colonized the Earth in less than fifty thousand years, the effects of movement varied greatly depending on whether the new terrain was empty of other humans,

whether related hominin species or other humans had to be displaced, and whether human populations were dislocated, subordinated, or reconnected within expanding social systems marked by political and economic inequality. Exploring how alternative modes of dispersal, displacement, and diaspora have affected human movement across deep time, we also show the remarkable extent to which mobility has shaped the frameworks in which deep history can be imagined.

In chapter 9, "Goods," we study the expanding array of material objects used to connect distant populations and build complex interactive networks. Goods are made and circulated in human economies, but the goods themselves reshape their makers, triggering feedback patterns that resemble coevolutionary spirals. These spirals contain histories precisely because their effects on the human body, languages, and ecosystems leave multiple traces. Connecting these traces and arranging them in narratives is crucial to the work of deep history. Finally, in chapter 10, "Scale," we consider the scalar leaps that have punctuated human history, including rapid population growth and the growing size and intricacy of human social formations. Like the other chapters, "Scale" is highly integrative. Showing how deep historical analysis can effectively bridge short and long chronologies, we redirect our key arguments to the task of dissecting one of the dominant metanarratives of the modern age: the belief that human development is progressive, cumulative, and directional and leads inevitably to social hierarchy and larger political institutions. This narrative of increase is itself a product of the historical trends analyzed throughout the volume, and we conclude by subjecting it to a rigorous critique—not a rejection, but a recontextualization—based on insights that arise when critique is undertaken at levels of significance and at scales that only deep historical frameworks make possible.

METAPHORS FOR DEEP HISTORY

This interpretive journey entails broad syntheses of major trends in the natural and human sciences. We do not, however, intend these essays to be encyclopedic. Although our team of writers includes three historians, two cultural anthropologists, a linguist, a primatologist, a geneticist, and three archaeologists, we realize that the areas of scholarship we cover in this book are vast and constantly expanding. We cannot produce full coverage; we can only inspire curiosity. We also understand that the subjects we have chosen for scrutiny are not the only or even the

best domains for illustrating the promise of a deep historical perspective. Much more could be said about climate, music and art, religion, law and violence, technology, and sex. This volume does not exhaust the possibilities: it offers some and hopes to suggest more.

The principal goal of this book, then, is not to achieve encyclopedism but to propose a new array of base metaphors for the writing of deep history. Metaphors are necessary to the making of good historical arguments. They determine the shape of historical trajectories as well as the subjects and the silences of such arguments. The strategic use of new metaphors can thus lead, as Richard Dawkins and J.R. Krebs put it, to "new and productive habits of thought about old and familiar material."[16] The writing of deep histories requires analytical frames that do not resort to narratives of ontogeny ("the birth of the modern"), genesis ("something new under the sun"), or original sin ("stone-age brains in twenty-first-century skulls").[17] These are powerful metaphors, and in the hands of skilled authors, they generate exciting perspectives on the past. But the history they lead us to imagine is often flattened and foreshortened; it is a history that cannot generate sustained interest in the deep past.

We propose a different array of governing metaphors. When skillfully deployed, analytical devices such as kinshipping, webs, trees, fractals, spirals, extensions, and scalar integration can help us better comprehend the immensity of human time and the dynamic of connectedness that both propels and constrains change. Kinshipping, for instance, offers ways to connect across time and space. It surmounts the metaphor of ontogeny, which describes the life history of an organism: that story necessarily begins at the moment of conception or birth, whether the birth of a nation or of a political idea. What comes before is analytically invisible or fundamentally different. By contrast, kinshipping is possible only if (and only because) a formative relation preexisted and continues to define the new and particular. It has no point of origin. Likewise, the coevolutionary spiral, which envisions two genealogies entwined and feeding off each other, displaces metaphors of genesis, revolution, and the biblical Fall. Notions of the latter sort predispose us to exaggerate the singularity of historical events and to downplay the many ways in which change builds on itself. The idea of the fractal, of patterns that are replicated at every level of magnification, helps us discern how dramatic changes seem unique only if we restrict ourselves to a single level of observation. The fractal, and the imagery of ever-smaller scales it evokes, suggests that leaps are always built on other leaps. Like kinship-

ping and spiraling, fractal patterns draw us ceaselessly into the past. They explain why changes in the things we can measure, such as gross population, population density, and energy consumption, do not have to be large to be profound. If we can generate a transdisciplinary discussion of these base metaphors and the other tactics we have proposed for reconnecting short and long chronologies, then current research will fall into place within new narrative frames. The frames themselves will help generate new research endeavors.

Our agenda is critical of well-established trends in how historians and cultural anthropologists concentrate their analytical efforts in space and time. We hope this critical stance is not interpreted as a claim for the superiority—intellectual, moral, or political—of temporally deep history over the historical study of recent times. An argument of that sort would be about as compelling, and convincing, as the claim that a history of the fifteenth century is better, and more profound, than a history of the seventeenth century because it is two hundred years older. What we insist on, by contrast, is a revamped historical imagination that sees deep and shallow history as analytical contexts that can endlessly reshape each other once they are allowed to speak to each other. If historians of the seventeenth century claimed that a history of the fifteenth century was not possible, we would suspect that something was amiss. Yet statements of this kind have come between deep and shallow history for almost two centuries now. They have produced short and long chronologies, natural and social sciences, and, in the end, an unhelpful excess of mutual incomprehension. It is time to close the gap.

CHAPTER 2

Imagining the Human in Deep Time

ANDREW SHRYOCK, THOMAS R. TRAUTMANN,
AND CLIVE GAMBLE

THE CHRONICLE'S MISSING YEARS

"All profound changes in consciousness," Benedict Anderson wrote, "by their very nature, bring characteristic amnesias. Out of such oblivions, in specific historical circumstances, spring narratives."[1] The discovery of deep time in the nineteenth century was certainly a profound change in consciousness. It altered perceptions of the natural order and triggered an explosion of new stories purporting to explain human origins. Yet for historians, the amnesia associated with an epistemological shift of this magnitude failed to materialize. The new Darwinian worldview did not cause them to forget what they already knew about the French Revolution, the spread of Islamic civilizations, or the decline of the Roman Empire. Rather, the advent of deep time made historians realize how little they knew compared to what could potentially be known and, just as important, how much they could never know using the historiographical methods they cherished. The result was *prehistory,* a conceptual innovation that functioned as a protective barrier between remote antiquity and a set of scholarly techniques that was applicable only to a recent sliver of the human past.

In the modern tradition of history writing, the author blends narrative, chronology, and textual evidence to produce an account that seems full and convincing. Without dates, storylines, and documentary evidence, today's historians cannot practice their craft; if even one of these

components is missing, the historian is confronted by debilitating gaps. He or she will try valiantly to fill them or move on to more promising terrain. Of course, this tendency says more about the mechanics of modern historiography than it does about our knowledge of the past. There are many genres of history making—among them the genealogy, the chronicle, the kings list, the heroic poem, and the monument—that include no plots, no dates, and no events at all. The historical accounts that pervade the Old and New Testaments, once the quintessence of historical truth, came to us without calendar-based chronologies attached, and the larger world, before and after biblical time, is filled with oral historical traditions that make no appeal to written evidence. These diverse ways of remembering might be of occasional use to the academic historian, who may regard them as data, but they are generally considered inadequate for creating reliable accounts of the past.

Hayden White put his finger on an essential aspect of modern historiography when he noted how strange the habits of medieval chroniclers appear to us now.[2] The annalists, usually clerics, kept lists of years to which they affixed important events, but they left certain years empty, as if to say, "Nothing of importance happened in 734." The entry of a year into the chronicle without a single memorable event associated with it strikes the modern sensibility as odd, as unfinished work—as if the passage of years were the important part, not the happenings and trends that are measured in years. Of course, to the eighth- or ninth-century chronicler, the passage of years was indeed very important, as it brought humanity ever closer to Christ's promised return. What to the modern eye looks like an empty spot that necessarily contained *something* to the chronicler must have looked like an uninteresting step, dutifully recorded, in the collective, unstoppable march toward the end of time.

It is ironic that modern historians should look askance at the annalist's little gaps, given the immense holes in time we have opened up, and left unfilled, over the past two centuries. Whatever we might say about the Bible as a historical document, we can agree that it attempted to tell the whole story, from Creation to Last Judgment. This universal framework explains why Archbishop James Ussher, one of the most distinguished members of a long lineage of chronologers, thought it a worthwhile endeavor to apply calendar dates to the Book of Genesis, dating creation to 4004 BC and thereby making it the consummately historical event it had to be; it also explains why the time revolution of the nineteenth century ended the Bible's long reign as a literal account of human history. The discovery of deep time, as Benedict Anderson deftly put it,

"drove a wedge between history and cosmology."[3] In the world of history writing, prehistory became the equivalent of the medieval chronicler's empty year. But the empty space called prehistory was immeasurably large, and the modern historiographer's inability to fill it created analytical challenges that were moral (that is, cosmological) as well as technical. To the extent that humans still believe that history is about us and that our history, like the biblical one, should go back to the beginning, the discovery of deep time requires us to imagine human nature in new ways.

This change in orientation began very suddenly and is still unfolding. At the beginning of the nineteenth century, the educated classes of Europe believed the biblical story of creation to be a true historical account. By the beginning of the twentieth century, this belief system was disintegrating, and new stories of human origins were replacing it. The growing certainty that our planet and our species were here long before the date promulgated by Archbishop Ussher meant that these new stories had to be constructed on a massive time scale. Evidence that humans had evolved from prior forms—thought, in the Victorian age of progress, to be more primitive forms—meant that a greater range of physical variation had to be worked into the story of our species. A new sense of distance and differentiation was needed to provide architecture for knowledge of the remote past.

Once again, there is the semblance of a gap, of missing years. But was this opening up of space and time as revolutionary as it now seems to be? Could we perhaps understand it better, and historicize it more creatively, if we treated it as a situation we have encountered many times before? Covering vast spatial and temporal distances and making human variations part of our social lives are practical (and conceptual) activities at which humans excel. The time revolution is a very recent event, and its effects on the way we imagine the human are best appreciated if we place it first in contexts that are historically particular—where dates, narratives, and texts matter a great deal—and then in contexts that are more general, in which a different array of historiographical devices enable us to reconnect to a larger human past.

BELL, BOOK, AND BIFACE

England in 1859 was a banner year for time, and in particular deep time. Just over 150 years ago—equivalent to about seven generations for an anthropologist, a long century for a historian, and an acceptable