

CHAPTER 1



INTRODUCTION: QUANTIFYING SOCIAL DEVELOPMENT

THE PROBLEM

A quarter of a millennium ago, intellectuals in Western Europe discovered that they had a problem. As problems went, theirs was not a bad one: they appeared to be taking over the world, but did not know why. The explanations that eighteenth-century theorists came up with varied wildly, although the most popular ideas all held that since time immemorial, something had made the West different from the rest and determined that Europe would one day dominate the world.

In the early twenty-first century, these ideas are still with us, albeit in heavily modified forms. The most influential argument, now as in the eighteenth century, is probably the theory that Europeans are the heirs to a distinctive and superior cultural tradition.¹ The roots of this Western civilization are most often traced back to the ancient Greeks and Romans, although other advocates identify pre-historic Indo-Europeans, ancient Germans, or medieval Europeans as the founders.²

A second strand of eighteenth-century thought credited environment and climate with making Europeans more energetic and creative than other people, and this too has plenty of modern champions.³ Some scholars combine the ecological and cultural ideas, arguing that it was the back-and-forth between the two that sent

early modern Europe down a new path.⁴ Even the idea that Europeans are biologically superior to other humans has been revamped: some economists claim that since the thirteenth century natural selection has made Europeans thriftier and more industrious than anyone else,⁵ while a handful of paleoanthropologists suggest that divergent genetic evolution in the ten thousand years since the origin of farming has made Europeans and their descendants more dynamic and inventive than other populations.⁶

These theories all took shape in the eighteenth century, when the explosion of European wealth and power cried out for explanation; and it was only in the later twentieth century, when East Asia was experiencing a similar explosion, that serious challenges emerged. As Japan, the Asian Tigers, and China developed into major economic powers, more and more scholars concluded that theories explaining West's success through long-term cultural, environmental, or racial causes simply could not be right. The big story in world history, they began suggesting, was not the long-term, inexorable rise of the West; it was the tale of a multipolar world, which the West had only recently, temporarily, and perhaps even accidentally come to dominate.

These new ideas are even more varied than the old long-term lock-in theories. The most extreme versions argue that the eighteenth-century theorists got things exactly back to front. According to the new theories, it was in fact China that had a long-term lock-in on global dominance, and only a bizarre series of accidents briefly tipped things in Europe's favor.⁷ Most versions, however, reject long-term explanations altogether, arguing that the complex societies of Asia and Europe developed down roughly parallel tracks until the eighteenth or even the nineteenth century, when small differences in state structure, natural endowments, physical and political geography, or intellectual trends gave Europe the lead.⁸

The argument over the causes and consequences of Western power has attracted enormous interest, but the champions of the different theories often seem to be talking past one another. They regularly define key terms in different ways, use different kinds of evidence, and apply different standards of proof. As a result, the antagonists rarely agree on exactly what they are trying to explain, let alone how to do the explaining.

As I see it, the real question at issue is about what I would call *social development*, by which I mean social groups' abilities to master their physical and intellectual environments and get things done in the world. Defenders of the new versions of the eighteenth-century theories tend to argue that Western social development has been higher than that in other parts of the world for hundreds or even thousands of years; their critics tend to argue that Western development pulled ahead only in the past half dozen generations. It seems to me that if we really want to explain why the West rules, we need to measure social development and compare it across time and space. Only when we have established the basic pattern of the history of social development can we start asking why it takes the form it does.

Quantification does not necessarily make debates more objective, but it does normally make them more explicit, forcing rivals to spell out exactly what they mean by the terms they use and to explain why they assign specific numerical values to these differences. Anyone who disagrees with another scholar's judgments will then be able to focus on the evidence and methods being used to calculate the scores, instead of trading vague, undertheorized generalizations. Under one name or another, numerical indices of concepts similar to social development are well established in anthropology, archaeology, economics, finance, policy making, and sociology, and there is an obvious model for such a yardstick in the United Nations' Human Development Index.⁹

In the 1960s and 1970s, some historians began applying similar methods to the past, addressing big questions by mustering vast amounts of statistical data. The classic case was probably Robert Fogel and Stanley Engerman's *Time on the Cross*, which brought together data from thousands of plantation records to work out just how profitable slavery was in the nineteenth-century American South and just what the physical experience had been like for the slaves themselves.¹⁰

Time on the Cross provided a successful model for quantitative history. The study appeared two volumes, the first providing a broad overview and set of interpretations aimed as much at a general readership interested in American history as at professional scholars, while the second volume detailed the statistical techniques and sources that Fogel and Engerman had used.

The Measure of Civilization follows this format. It is a companion volume to my earlier book *Why the West Rules—For Now: The Patterns of History, and What They Reveal about the Future*. When I was writing *Why the West Rules—For Now*, my editors and I decided to post supporting materials on a website rather than producing a second print volume in print, but since then it has become clear that there is some interest in having a revised and expanded version of this material available in print.¹¹

I have two main goals in *The Measure of Civilization*. First, I want to provide critics of *Why the West Rules—For Now* with the ammunition they need to subject the conclusions I reached in that book to systematic analysis. While I naturally hope that my thesis withstands such attempts at falsification, the next-best outcome would be to see explicit debate over my own analysis lead to improved versions of the social development index and a stronger explanation of the rise of Western power and wealth.

My second goal in setting out a full account of the social development index is to contribute to making comparative history more explicit and quantitative. “The history of science is emphatic,” the biologist-turned-historian Peter Turchin has pointed out: “a discipline usually matures only after it has developed mathematical theory.”¹² There will never be such a thing as a one-size-fits-all numerical index that answers every question that any comparative social scientist might want to ask, but one of the best ways to turn comparative history into such a mature discipline may be through the design of multiple indices, each crafted to solve a particular problem.

I begin by setting out, very briefly, a formal definition of what I have in mind when I speak of “social development.” I follow up this brief definition with an overview of the ideas it draws on and the objections that have been raised to them across the past fifty years. In chapter 2, I try to distill from these criticisms the key challenges facing a social development index, and then explain how I have tried to address these challenges. In the main part of the book (chapters 3–6) I set out the evidence behind the scores in my four traits of energy capture, organization, war making, and information technology. In the final chapter, I consider some of the ways an index of social development might contribute to other debates within the social sciences.

SOCIAL DEVELOPMENT: A DEFINITION

Social development, as I use the expression, is *a measure of communities' abilities to get things done in the world*. I label this property “social development” because it seems to me to have much in common with the central ideas of development economics.¹³ The historian Kenneth Pomeranz has suggested that it might be better to call the concept “social power,” but I am not convinced, not least because the concept is sufficiently different from previous influential uses of the label social power (particularly the version developed by the sociologist Michael Mann) that this terminology would probably introduce unnecessary confusion.¹⁴

Social development is an important concept because the major reasons that the West (another key concept in need of definition: see chapter 2, “Units of Analysis”) has dominated the world in the past two hundred years are that (a) its social development has reached higher levels than that of any other part of the planet and (b) these levels have risen so high that the West has been able to project its power globally.

“Communities’ abilities to get things done in the world” is what we might call a minimal definition of social development. It is handy but imprecise, and, like all minimal definitions, it is framed at such a high level of abstraction that it is difficult to operationalize (that is, it is not obvious what we would need to do on the ground to put such a vague formulation to use).

Consequently, social scientists often follow up a minimal definition with an “ideal-type” definition, one that “aims for a collection of attributes that is maximal—that is, including all (nonidiosyncratic) characteristics that help to define the concept in its purest, most ‘ideal’ (and perhaps its most extreme) form.”¹⁵

Putting matters more formally, *social development is the bundle of technological, subsistence, organizational, and cultural accomplishments through which people feed, clothe, house, and reproduce themselves, explain the world around them, resolve disputes within their communities, extend their power at the expense of other communities, and defend themselves against others’ attempts to extend power.*¹⁶

Social development is—in principle—something we can measure and compare through time and space. If Western social development has been higher than that in the rest of the world since time immemorial, the answer to the why-the-West-rules question must lie very deep in the past, as the champions of biological or environmental theories of Western supremacy hold. If, however, Western social development surged ahead of that in other regions during the first millennium BCE, we might conclude that advocates of the importance of Greece and Rome in fact got things right. But if it should turn out that Western social development outstripped that of other civilizations only in very modern times, we will be forced to conclude that these old theories are wrong, and must seek explanations elsewhere.

I want to emphasize that social development is a *measure* of communities' abilities to get things done in the world, not an *explanation* of communities' abilities to get things done. Social development shows us the pattern that we need to explain.

Social development is also not a measure of the worth of different societies. For instance, twenty-first-century Japan is a land of air conditioning, computerized factories, and bustling cities. It has cars and planes, libraries and museums, high-tech health care and a literate population. The contemporary Japanese have mastered their physical and intellectual environment far more thoroughly than their ancestors a thousand years ago, who had none of these things. It therefore makes sense to say that modern Japan has higher levels of social development than medieval Japan. Yet this implies nothing about whether the people of modern Japan are smarter, worthier, or luckier (let alone happier) than the Japanese of the Heian era. Nor do social development scores imply anything about the moral, environmental, or other costs of social development. Social development is a value-neutral analytical category.

THE INTELLECTUAL BACKGROUND

Scholars have been interested in ideas similar to social development for a very long time. There are several excellent reviews of this his-

tory, so I will not attempt a comprehensive survey here.¹⁷ Instead, I will look only at the ideas that seem to be most relevant to the social development index that I construct in this book, and then at some of the most important criticisms of these approaches.

The most useful starting point is probably the essay “Progress: Its Laws and Cause” that the eccentric English polymath Herbert Spencer published in the *Westminster Review* in 1857.¹⁸ Like many English intellectuals in the mid-nineteenth century, Spencer felt that he was living in an age of previously unimaginable progress and wanted to explain it. “From the remotest past which Science can fathom, up to the novelties of yesterday,” he argued, “that in which progress essentially consists, is the transformation of the homogeneous into the heterogeneous.” He proposed calling the mechanism through which things that began simply became more complex “evolution”:

The advance from the simple to the complex, through a process of successive differentiations, is seen alike in the earliest changes of the Universe to which we can reason our way back, and in the earliest changes which we can inductively establish; it is seen in the geologic and climatic evolution of the Earth; it is seen in the unfolding of every single organism on its surface, and in the multiplication of kinds of organisms; it is seen in the evolution of Humanity, whether contemplated in the civilized individual, or in the aggregate of races; it is seen in the evolution of Society in respect alike of its political, its religious, and its economical organization; and it is seen in the evolution of all those endless concrete and abstract products of human activity which constitute the environment of our daily life.¹⁹

Spencer spent the next forty years bundling geology, biology, psychology, sociology, politics, and ethics into a single evolutionary theory of everything, explaining how the universe had gone from being simple and undifferentiated to being complex and highly differentiated. In the three volumes of his *Principles of Sociology*, Spencer argued that human societies had evolved through four levels of differentiation, from the simple (wandering bands without leaders) through the compound (stable villages with political leaders) and doubly compound (groups with churches, states, complex divisions of labor, and scholarship) to the trebly compound (great civilizations like Rome, and, of course, Victorian Britain).²⁰

Spencer's ideas won an enormous audience, and in recognition of the way they have shaped much of the thinking since the 1850s, I will use the expression "social evolutionism" as a broad label for all the approaches that I discuss in this section. I will also treat "social evolution" (the term most favored in British English) and "cultural evolution" (the term most favored in American English) as synonyms.

By 1870 Spencer was probably the most influential philosopher writing in English; when late-nineteenth-century Japanese and Chinese intellectuals decided they needed to understand Western success, he was the first author they translated. Even Charles Darwin, who did not use the word "evolution" in the first five imprints of his *Origin of the Species*, felt compelled to borrow it from Spencer in the sixth version, published in 1872.

Several other late-nineteenth-century theorists (often lumped together with Spencer as "classical evolutionists") produced their own versions of his typologies. Edward Tylor, for instance, spoke in his book *Primitive Culture* of the shift from savagery through barbarism to civilization, and Lewis Henry Morgan used the same terminology in his *Ancient Society*, a book that massively influenced Friedrich Engels's *Origins of the Family, Private Property and the State*.²¹

There were very few archaeological data available to these theorists, so they relied heavily on the assumption that the colonized peoples of nineteenth-century Africa, Asia, Australia, and South America were living ancestors, illustrating how people who were now at the trebly compound/civilized stage of differentiation must have lived in prehistoric times. However, even this limited ethnographic information was full of problems. Most of it came from missionaries and colonial administrators, who tended to be interested only in very particular aspects of the groups they encountered. As a result, when the first generation of professional anthropologists began doing fieldwork in their own right in the early twentieth century, they quickly discovered that a lot of the evolutionists' supposed facts were simply wrong.

By the 1910s, a serious backlash was under way, and across the twentieth century Spencer's notion that evolution and differentiation should be at the heart of historical inquiry has gone in and out of fashion.²² The most important critics were initially Franz Boas (a

German scholar who moved to the United States) and Bronislaw Malinowski (a Polish scholar who moved to Britain), who, by the 1920s, had convinced many anthropologists that the field's subject matter consisted of a vast number of discrete "cultures," each of which was a unique, seamless whole that had to be understood as a coherent system.

Functionalism—the theory that ideas, institutions, and values settled into equilibrium within each of these discrete cultures—became increasingly popular, often striking anthropologists as a much sounder basis for the construction of a natural science of society than the speculative leaps of classical evolutionists.²³ One of the costs of adopting a functionalist approach was of course that cross-cultural comparison and explanation of change through time became much more difficult, but social scientists were often willing to pay that price, and Spencerian evolution quickly collapsed as an organizing principle for thinking about societies.

Marxists remained wedded to evolutionary narratives in the 1920s, but in liberal democracies (and, albeit in rather different ways, in fascist regimes) most sociologists and anthropologists concluded that arranging human groups along a simple-to-treble-compound or savage-to-civilized spectrum was no better than making up just-so stories that were (a) conjectural and (b) pointless.

The 1930s were probably the high point of Boasian particularism, but the pendulum was already swinging back. The career of the archaeologist V. Gordon Childe, yet another academic émigré (this time an Australian who moved to Britain), illustrates this nicely.²⁴ In the interwar years, stratigraphic excavation (i.e., separating out the layers of deposits on a site and arranging the deposits into sequences that could be dated relative to one another) was becoming the norm in archaeology, and enough evidence was accumulating to make broad syntheses possible.

In his first really successful book, *The Dawn of European Civilization*,²⁵ Childe was fairly typical of the times in focusing on a particular region rather than thinking in Spencer's global terms, and in explaining cultural change through diffusion and migration rather than evolution and differentiation. But in the 1930s, Childe—like many social scientists in liberal, democratic countries—turned toward Marxism and began asking very different questions. In *Man*

Makes Himself and *What Happened in History*, he recognized that archaeology's enlarged database now showed beyond reasonable doubt that agriculture and cities had evolved independently in different parts of the world. By 1951 he even felt ready to call a book *Social Evolution*.²⁶

In just the same years, many American social scientists were also returning to evolutionary frameworks. Some, like Childe, leaned toward Marxism (the anthropologist Leslie White, for instance, published a string of left-wing political essays under pseudonyms),²⁷ while others strongly opposed it (the economist Walt Rostow gave his classic book *The Stages of Economic Growth* the subtitle *A Non-Communist Manifesto*).²⁸ But regardless of their political agendas, Americans tended to prefer Spencer's emphasis on differentiation to Childe's more humanistic evolutionism.

The most influential of these thinkers was probably the sociologist Talcott Parsons. In a series of studies, Parsons proposed not only a new typology of social stages (primitive, intermediate [subdivided into archaic and advanced], and modern) but also a complicated framework for explaining the development from primitive to modern.²⁹ Parsons argued that social evolution consisted of accumulating six "evolutionary universals," each of which comprised "a complex of structures and associated processes the development of which so increases the long-run adaptive capacity of living systems in a given class that only systems that develop the complex can attain higher levels of general adaptive capacity."³⁰ First came social stratification and cultural legitimation (i.e., hierarchy and differentiation within societies combined with group identity and differentiation between societies), then bureaucracy and markets, and finally universalistic norms (particularly in law and religion) and democracy.

Parsons's thinking was even more ambitious than Childe's in its intention to subsume everything from human evolution to twentieth-century capitalism within a single framework, but it was also widely criticized for its circularity in identifying differentiation as both the cause and consequence of evolution.³¹ As a result, some social scientists who found the general thrust of Parsons's theories interesting nevertheless turned elsewhere to try to explain social evolution.

After Parsons himself, the most widely read evolutionist in these years seems to have been the anthropologist Leslie White, who em-

phasized energy capture as the motor driving evolution.³² Like other evolutionists, White divided history into stages (in his case, of primitive, civil, and complex societies), but departed from most of his predecessors in arguing that “*culture develops when the amount of energy harnessed by man per capita per year is increased; or as the efficiency of the technological means of putting this energy to work is increased; or, as both factors are simultaneously increased.*”³³ History, White concluded, could be summed up in the equation $C = E \times T$: culture = energy \times technology.³⁴ Societies evolved from primitive to civil when they adopted agriculture and from civil to complex when they industrialized.

This was an important departure from the Spencer/Parsons line, but White hewed more closely to social evolutionary orthodoxy when he turned to the consequences of rising energy use. The most important result of the shift from primitive through civil to complex society, he argued, was increasing differentiation. As he explained it,

Agriculture . . . greatly increased the food supply, which in turn increased the population. As human labor became more productive in agriculture, an increasing proportion of society became divorced from the task of food-getting, and was devoted to other occupations. Thus society becomes organized into occupational groups: masons, metal workers, jade carvers, weavers, scribes, priests. This has the effect of accelerating progress in the arts, crafts, and sciences (astronomy, mathematics, etc.), since they are now in the hands of specialists, rather than jacks-of-all-trades. With an increase in manufacturing, added to division of society into occupational groups, comes production for exchange and sale (instead of primarily for use as in tribal society), mediums of exchange, money, merchants, banks, mortgages, debtors, slaves. An accumulation of wealth and competition for favored regions provokes wars of conquest, and produces professional military and ruling classes, slavery and serfdom. Thus agriculture wrought a profound change in the life-and-culture of man as it had existed in the human-energy state of development.³⁵

American thinking about social evolution in the twenty or thirty years after World War II is often bundled under the label “neo-evolutionism,” to distinguish it from the (predominantly European)

“classical” evolutionism of the nineteenth century, and two big ideas run through much of the neo-evolutionary discussion. One was the return to differentiation as the most important consequence (and, in Parsons’s view, cause) of evolution; the other, the desire to quantify evolution to make comparisons more explicit.

Numerical scales for ranking the evolution of societies went back to the late-nineteenth-century heyday of classical evolutionism. The earliest attempt to base such rankings on reliable, cross-cultural data was probably Sebald Steinmetz’s long essay “Classification des types sociaux,” which looked primarily at subsistence technology.³⁶ Hans Nieboer elaborated this in his classic study of *Slavery as an Industrial System*, and Leonard Hobhouse and his collaborators expanded the framework further.³⁷

By the end of World War II, mountains of new evidence and growing statistical sophistication among American social scientists had made these early efforts look hopelessly inadequate. In a brief discussion in a general textbook, the anthropologist Carleton Coon floated the idea that it should be possible to produce a much better quantitative index by counting the number of specialists, amount of trade, number of corporate groups, and complexity of institutions with a society, but the first really usable index was Raoul Naroll’s.³⁸

Naroll was a researcher on the Human Relations Area Files (HRAF), an ambitious program established at Yale University in 1949 to create a database for global comparisons of human behavior, society, and culture.³⁹ Randomly choosing thirty preindustrial societies from around the world (some contemporary, others historical), Naroll scoured the HRAF files to find out how differentiated they were.

Since differentiation has an almost infinite number of possible dimensions, Naroll established a pair of principles for operationalizing the concept. First, he suggested, the only way to proceed was by narrowing the study down to down to the smallest possible number of traits that covered most of the ideas Spencer had in mind when he spoke of differentiation; and second, the selected traits had to meet certain basic criteria. They had to have culture freedom (i.e., be free of ethnocentric bias), logical independence (i.e., not be riddled with spurious correlations), adequate documentation, reliability (i.e., experts could not disagree too wildly over the facts), and

convenience (if the data were too difficult to obtain, the scoring system would become impractical).

Naroll came down on three traits: the size of the largest settlement in a society, the specialization of its craft production, and the number of its subgroups. After looking into various definitional and methodological problems, he quantified the three traits and converted the results to a standard format, generating an index of social development on which sixty-three points was the maximum possible score. At the bottom of his league, with twelve points, came the Yahgan of Tierra del Fuego, who had struck Charles Darwin on his visit there in 1832 as “exist[ing] in a lower state of improvement than [people] in any other part of the world”;⁴⁰ at the top came the fifteenth-century Aztecs, with fifty-eight points.

Within a few years, Robert Carneiro, then on the staff of the American Museum of Natural History, came up with a very different way to build an index.⁴¹ Like Parsons, Carneiro was interested in whether there were evolutionary universals (which Carneiro called “functional prerequisites”) that every society had to possess to move from one level of complexity/differentiation to another. Borrowing the technique of scale analysis from social psychologists, he next looked for traits with “the following characteristics: (1) their presence indicates a greater degree of complexity than their absence, and (2) once developed they tend to be retained, if not indefinitely, at least over long periods.”⁴²

Carneiro selected eight such traits (social stratification, pottery, fermented beverages, state-level government, agriculture, stone architecture, metallurgy, and weaving) and scored them for presence/absence rather than assigning numerical values as Naroll had done. He then picked nine South American societies and arranged them into what he called a scalogram (figure 1.1).

Carneiro argued that the scalogram allowed him not only to rank the complexity of the nine societies, from zero (once again, the nineteenth-century Yahgan) up to nine positives (the fifteenth-century Inca), but also to argue that the eight traits were all functional prerequisites, in that “*x necessarily precedes y*, which is to say that *y* cannot come into existence without the prior existence of *x*.”⁴³ In a later essay, Carneiro tested his index against the historical evidence for the sequence in which traits appeared in the ancient Near

stone architecture	-	-	-	-	-	-	-	-	+
political state	-	-	-	-	-	-	-	+	+
smelting of metal ores	-	-	-	-	-	-	+	+	+
social stratification	-	-	-	-	-	+	+	+	+
loom weaving	-	-	-	-	+	+	+	+	+
fermented beverages	-	-	-	+	+	+	+	+	+
pottery	-	-	+	+	+	+	+	+	+
agriculture	-	+	+	+	+	+	+	+	+
	Yahgan	Sherente	Kuikuru	Tupinambá	Jivaro	Cumaná	Anserma	Chibcha	Inca

Figure 1.1. Carneiro’s scalogram showing the presence (+) and absence (-) of eight selected culture traits among nine South American societies.

East and Anglo-Saxon England, and argued that his approach could boast a “coefficient of reproducibility” of greater than .90.⁴⁴

Indices and experiments with different statistical techniques for manipulating the results proliferated across the next decade. Most followed the Naroll-Carneiro model of trying to get a snapshot of entire societies, bundling together traits reflecting a range of different activities,⁴⁵ but a few opted for narrowing the focus to a particular kind of evidence held to reflect differentiation more directly, such as burials or settlement patterns.⁴⁶ Despite all their differences, though, most of the varied numerical indices produced rather similar results; by Carneiro’s calculations, analysts agreed on scores 87–94 percent of the time.⁴⁷

By the late 1970s neo-evolutionism was becoming a fairly coherent research program, thanks in part to the very clear expositions of differentiation-based theories in Elman Service’s book *Primitive Social Organization* and Morton Fried’s *The Evolution of Political Society*.⁴⁸ The former classified societies into bands, tribes, chiefdoms, and states, and the latter (more influenced by Marxism) into egalitarian, ranked, stratified, and state stages. These typologies (particularly Service’s) more or less displaced Parsons’s and White’s terminologies all across the social sciences.

The 1970s were probably the high tide of American neo-evolutionism. But in an uncanny echo of the 1910s, when classical

evolutionism had seemed to be on the verge of creating a great new synthesis, the pendulum abruptly swung away from anything resembling Spencerian theory in many of the social sciences. Economic history and political science were partial exceptions, perhaps because the growing influence of institutional analysis encouraged stage-theory approaches to the past, and in the Soviet bloc quantitative evolutionism remained in favor.⁴⁹ But in Western Europe and the United States, sociological, anthropological, and archaeological debates over evolutionism took on the same kind of political edge in that they had had in the 1910s. Accusations of partisan bias, bad faith, and worse scholarship disfigured much of the pro- and anti-evolutionism literature in the 1980s and 1990s.

Some anthropologists and archaeologists argued that “the meta-narrative of simple to complex is a dominant ideology that organizes the writing of contemporary world prehistory in favour of a modernizing ethos and the primacy of the West,”⁵⁰ while others responded that the critics needed to “abandon their fixation on ‘alterity,’ ‘reflexivity,’ and the like, and turn instead to an assessment of real and important objective problems, and to the application of some hard thinking and rigorous quantitative methods to their solution.”⁵¹ University anthropology departments, where the fights tended to be fiercest, regularly divided into cultural and evolutionary wings that did their own faculty and graduate recruiting (as at Harvard) or even split into two entirely separate departments (as at Stanford).

Since about 2000, though, another swing back toward social evolutionism seems to have begun. During neo-evolutionism’s heyday in the 1970s, self-styled Darwinian archaeologists had been among its fiercest critics. According to one of the leading Darwinians, Robert Dunnell, “cultural evolution is neither science, nor theory, nor evolution, if evolution is taken to mean what it does in the sciences. As such, it is inappropriate as an explanatory framework in an archaeology committed to a scientific approach.”⁵²

The latest upswing in social evolutionism, however, has been driven largely by theorizing about the coevolution of biology and social behavior.⁵³ Jared Diamond’s *Guns, Germs, and Steel: The Fates of Human Societies* has been by far the most influential contribution, gracefully blending biology, archaeology, anthropology, and

history into a compelling narrative of the coevolution of plants, animals, and human societies across the past fifteen thousand years.⁵⁴

Diamond had begun his career as a biologist, and taught for many years in the medical school at the University of California, Los Angeles. He is now a member of UCLA's geography department, but with the exception of a brief term as a visitor at Stanford, he has never held an appointment in an anthropology, archaeology, or history department, despite now being the most widely read writer in any of these fields.

Given the polemical tone of academic arguments over evolutionism in the 1990s, it is probably not a coincidence that Diamond's book succeeded in large part because it reached out to non-academic audiences, having much impact within universities only after it had already sold several million copies outside them. This seems to be typical of the new social evolutionism; and although no one else has quite matched Diamond's success, scholars in political science, economics, the philosophy of religion, psychology, archaeology, anthropology, and history have all written for broader readerships.⁵⁵ This trend breaks with the narrowly specialist tone of most neo-evolutionism, and hearkens back to the days of Spencer and Darwin, when serious contributions were expected to speak directly to nonspecialists.

Despite the continuing arguments within the academy, there are good reasons to think that the 2010s might see a new synthesis of biological and social evolutionism, aimed at audiences both inside and outside universities.⁵⁶ One of my main hopes in writing *Why the West Rules—For Now* and *The Measure of Civilizations* is of contributing to this. The notion of social development that I present grows out of ideas about social evolution going back to Spencer and builds on the tradition of index building that goes back to Naroll, but it also tries to take seriously the criticisms of these ideas that resurfaced so often during the twentieth century.

In the next section, I summarize some of the most important objections that have been raised against social evolutionism. I concentrate on the past fifty years, and particularly the 1980s criticisms, which seem to me to have identified the most pressing problems of this approach. I close this chapter by drawing out from these de-

bates what I see as the most important challenges that an index of social development must overcome.

DEBATES OVER THE CORE CONCEPTS OF SOCIAL EVOLUTIONISM

DIFFERENTIATION

I start with differentiation because most theorists since Spencer have seen this as the dimension of a society that increases when that society progresses/evolves/becomes more complex. In practice, however, despite the widespread agreement that differentiation is the core concept, it has had a checkered history.

Archaeologists have probably faced greater difficulties with differentiation than anyone, because they have found it extremely difficult to measure.⁵⁷ In the 1970s some social evolutionists in archaeology were attracted to study burials on the hope that death rituals make explicit the social personas into which societies are differentiated,⁵⁸ but in the 1980s critics showed that what buriers express in their differentiated treatment of the dead is really a set of conceptions about what the ideal relationships among the living ought to be like, not social personas as a Parsonian sociologist might identify them.⁵⁹ As a result, despite the weight that differentiation receives in formal definitions, it rarely has much role in archaeologists' actual judgments about evolution/complexity. In Naroll's 1956 social development index, for example, only one trait (settlement size) might reasonably be seen as a proxy for differentiation; and in the final version of Carneiro's trait list, just one-sixth of the dimensions related directly to differentiation.⁶⁰

Since the 1980s, archaeologists have generally continued drifting away from differentiation as an analytical tool, but sociologists have gone much further. In some ways, they point out, the societies we might think of as the most complex—the great modern nation-states—are actually *less* differentiated than premodern archaic states,

with their complicated webs of estates, orders, and ranks.⁶¹ *Dedifferentiation*, Charles Tilly argues, has been the hallmark of the rise of homogeneous citizen communities.⁶²

Nor is this process unique to modernity: in another well-known case, the homogeneous citizen community of fifth-century BCE Athens was also much less legally differentiated than the city-states of the preceding archaic period. Despite a massive increase in state capacity and prosperity between the sixth and fifth centuries,⁶³ the complexity of the status structure expressed in Athenian burials declined sharply.⁶⁴

Tilly concluded from this that “we have no warrant for thinking of differentiation in itself as a coherent, general, lawlike social process,” and since the 1980s, differentiation has disappeared from sociological debates even more completely than from archaeological ones.⁶⁵

COMPLEXITY

If differentiation is too incoherent to form the basis of a theory of social evolution, complexity—which, in most social scientists’ formal definitions, depends entirely on differentiation—must be jettisoned along with it.⁶⁶ However, in the past twenty years, a number of social scientists have suggested that complexity can be retained as a central concept if we replace social-scientific ideas based on Spencian differentiation with theories of complexity drawn from the natural sciences.⁶⁷

Many versions of complexity theory argue that if we look at organizations as complex adaptive systems, we quickly see that pattern and structure at the macroscale emerge from the microscale behavior of agents acting in accordance with completely different ideas, or even no ideas at all.⁶⁸ Spencer would probably have appreciated the argument that the emergence and collapse of order and hierarchy are physical processes (often referred to as self-organized criticality, or SOC), equally relevant to the formation of the universe 13.7 billion years ago and the formation of human organizations. Related ideas have been taken up in anthropology, archaeology, management, history, international relations, and political science.⁶⁹

Complexity theorists often draw on neo-evolutionists' categories, particularly when they want to describe premodern human societies. However, they also tend to see neo-evolutionism as imprecise, empiricist, and lacking clear explanations.

EVOLUTION

While complexity theorists have revived Spencer's vision of evolution as a catchall concept covering everything from geology to legal processes, some social scientists have gone in the opposite direction since the 1970s, recoiling from using the same label to describe Darwinian descent with modification in biological organisms and the very different types of change that happen in social organizations.

The most trenchant criticisms are probably those of the sociologist Anthony Giddens, who suggests that for any theory calling itself evolutionary, "there must be at least some presumed conceptual continuity with biological evolution . . . [and] social evolutionism must specify something more than just a progression of change in respect of certain designated criteria, that something being a mechanism of change." He argues that social evolution shares little with biological evolution, particularly because it depends on extending Darwin's mechanism of change—adaptation—until it becomes "irremediably amorphous."⁷⁰

Many biologists agree. John Maynard Smith, a pioneering figure in the application of game theory to biological evolution, has been particularly blunt, arguing that the "explanatory power of evolutionary theory rests largely on three assumptions: that mutation is nonadaptive, that acquired characters are not inherited, and that inheritance is Mendelian—that is, it is atomic, and we inherit atoms, or genes, equally from our two parents, and from no one else. In the cultural analogy, none of these things is true."⁷¹

Some archaeologists have responded to concerns of this kind by thinking of artifacts as extensions of the human phenotype, focusing on how natural selection operates on their differential persistence through time.⁷² Summarizing the thinking of self-styled "Darwinian archaeologists," Robert Leonard explained that "[t]o a processualist [i.e., a social evolutionist], an adaptation is any behav-

ior that has a function in an environment. To an evolutionist, it is a phenotypic feature that has been modified over time by natural selection so that it serves an important evolutionary function.”⁷³ Darwinian archaeologists tend to be even more critical of social evolutionism than complexity theorists, typically portraying it as hopelessly confused about the unit of selection and even more so about adaptation.⁷⁴

PROGRESS

Very few social scientists nowadays use the word “progress” as a synonym for social evolution or differentiation. It was, however, one of Spencer’s core concepts, and therefore calls for a brief comment.

Spencer, I suspect, would have seen social-scientific concepts such as Parsons’s “evolutionary universals” and Carneiro’s “functional prerequisites” as representing much the same idea as his notion of progress, no matter how strenuously post-Weberian social scientists struggle to separate facts and values, and many critics of social evolutionism seem to agree. The archaeologists Michael Shanks and Christopher Tilley, for instance, argue that discussions of evolution, differentiation, and related concepts “easily slip into ideologies of self-justification or assert the priorities of the West.”⁷⁵ If they are correct, it may be that implicit assumptions about progress are inevitably built into any discussion of social evolution.

STAGE THEORIES

Virtually all classical and neo-evolutionists, from Spencer with his typology of simple through trebly compound to Service with his alternative of band, tribe, chiefdom, and state, produced stage theories of social evolution. Such theories have many advantages, not least their potential for predicting variables that cannot be directly observed. If it is true, say, that all bands live in small, mobile groups, with low population densities, minimal technology, weak ranking, and shallow gender hierarchies, then archaeologists who know just

one or two things about a society—say, its subsistence basis and settlement pattern—might be able to reconstruct dimensions that are undocumented, such as law or kinship.

Arguing from HRAF data, the archaeologist Charles McNett claimed 50 percent accuracy for such predictions,⁷⁶ and in the 1970s many prehistorians worked hard to clarify the stages' archaeological correlates and to place specific societies within them.⁷⁷ But, as often happens, this research created its own problems. Case studies found that some societies did not work the way the stage theories said they should,⁷⁸ and factor analyses of HRAF data failed to demonstrate clear correlations between variables, because different rotations produced wildly different loadings.⁷⁹

More careful cross-cultural surveys in the 1980s suggested that the statistical problem reflected a genuinely messy reality. A survey of New World societies found “considerable variability . . . for each examined attribute. This diversity was continuous rather than discrete and no clear societal modes or subtypes were readily apparent. In addition, relationships of varying strength were found between the different organizational characteristics.”⁸⁰

Worse still, because the sharp lines between stages blur so badly in the real world, it can be hard to know when empirical data have actually falsified any specific stage theory. In one case, contributors to the same conference volume reached diametrically opposed conclusions on whether population density and settlement size correlate positively with political systems.⁸¹

Some archaeologists tried to clarify matters by splitting Service's four original stages into subtypes,⁸² or suggesting that chiefdoms and states represent alternative paths of development, not successive stages. Service himself responded to the messiness by proposing a simpler “great divide,” before which “primitive societies were segmented into kin groups that were egalitarian in their relations to each other,” and after which “some of them became hierarchical, controlled and directed by a central authoritative power—a power instituted as a government.”⁸³ Most archaeologists, however, moved in the opposite direction, increasingly thinking of stages as mere shorthand descriptions or ideal types superimposed for heuristic purposes on a reality of continuous change.⁸⁴

SOCIETY

Alongside challenges to the coherence of the stages into which theorists had bundled societies came challenges to the coherence of “society” itself.

Sociologists have long insisted that “societies” are groups constituted through practice, not unitary systems. People may define their societies in ethnic, political, religious, cultural, or other terms, and generally belong to several societies at once, choosing between them (or being chosen) depending on context. Michael Mann calls societies “confederal, overlapping, intersecting networks,” and Giddens speaks of “social systems which ‘stand out’ in bas-relief from a background of a range of other systemic relationships in which they are embedded. They stand out because definite structural principles serve to produce a specifiable overall ‘clustering of institutions’ across time and space.”⁸⁵

Anthropologists share these concerns. Criticizing what they call “the stereotypical ‘among the so-and-so’ mold” of thinking that dominated ethnography through most of the twentieth century, Akhil Gupta and James Ferguson argue that

whatever associations of place and culture exist must be taken as problems for anthropological research rather than the given ground that one takes as the point of departure; cultural territorializations (like ethnic and national ones) must be understood as complex and contingent results of ongoing historical and political processes. It is these processes, rather than pre-given cultural-territorial entities, that require anthropological study.⁸⁶

The “societies” that sociologists analyze are often very different from the “cultures” that anthropologists study, and neither seems very like the clusters of artifact types that archaeologists commonly call “cultures” (in the classic definition, “*polythetic set[s] of specific and comprehensive artefact types which consistently recur together in assemblages within a limited geographic area*”).⁸⁷

Naroll recognized the problem and responded by coining a new term, the “cultunit,”⁸⁸ which he divided into four types, varying on

two chronological scales, but this complicated idea won little support. If the unit of analysis is really so slippery, then the long-term, large-scale comparisons that are the staple of social evolutionism seem doomed to failure.

QUANTIFICATION

Quantification is central to most approaches to social evolution, and half a century ago Naroll and Carneiro were already wrestling with the fundamental problem of how to convert nominal into interval data. By the 1970s, however, the desire to reduce unique humans or historical situations to serial data that could be counted was itself being challenged. As Shanks and Tilley saw it, the “mathematization” of the past was part of the evolutionists’ hidden agenda of legitimizing Western domination: the mistaken assumption behind mathematization, they argued, was that when we quantify, “[w]e rediscover our essentially mathematical selves, and in our obsession with immediacy and factuality discover the inevitability of the present being as it is; it becomes objectively necessary.”⁸⁹

In a classic essay, the sociologist Mark Granovetter once suggested that social scientists are pulled in two opposite directions. One leads toward “over-socialization” of the social sciences’ subject matter, embedding every problem in so much context and allowing so much scope for competing constructions and subversions of meaning that no solution is possible; the other, toward “under-socialization,” wrenching details out of the context that gives them meaning and therefore finding only superficial answers.⁹⁰

The challenge, of course, is to find the best possible balance between abstraction and immediacy. Different disciplines tend to favor different points on the spectrum, with anthropology and history perhaps moving furthest toward oversocialization and economics and psychology furthest toward undersocialization. If Peter Turchin (quoted earlier in this chapter) is right that “a discipline usually matures only after it has developed mathematical theory,” social evolutionism requires more (and more sophisticated) quantification; if Shanks and Tilley and those who share their views are right, mathe-

matization and social evolutionism are simply extreme versions of undersocialization.

CONCLUSION

This is a formidable set of criticisms. If they are justified, the Spencian tradition of social evolutionism—and with it, any hope of using a social development index to answer the why-the-West-rules question—would seem to be fatally flawed.

There has been no shortage of evolutionists ready to defend the tradition against its critics.⁹¹ In this book, though, I want to take a different tack. It seems to me that many of the criticisms raised in the past half century are quite justified, and deserve to be taken seriously; but that does not mean that the 1980s to 1990s trend toward abandoning social evolutionism altogether was also justified. In chapter 2, I try to show if we take the criticisms seriously, it is possible to build a more focused and robust kind of index that avoids many of the shortcomings of neo-evolutionist theory and really can provide the tools that show us what we need to explain if we are to know why the West rules—for now.