

The
MEASURE
of
CIVILIZATION



How Social Development Decides the Fate of Nations

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PREFACE



THE MEASURE OF CIVILIZATION IS A COMPANION VOLUME to my earlier book *Why the West Rules—For Now*. It is a very different kind of book, though. In *Why the West Rules*, I tried to tell the story of social development across the last fifteen thousand years; here, I describe the evidence and methods I used in constructing the index of social development that lay behind that story.

Like many books, this one has grown out of conversations that have been going for years. I was introduced to the idea of social evolution when I was a graduate student at Cambridge (UK) in the early 1980s, and have been talking and thinking about it, in fits and starts, ever since. Along the way I have incurred debts to many people, and I would particularly like to thank Daron Acemoglu, James Anderson, John Bennet, Francesca Bray, Mat Burrows, Ewen Cameron-Watt, John Cherry, Eric Chinski, David Christian, Jack Davis, Stephan de Spiegelere, Jared Diamond, Al Dien, Tom Galant, Peter Garnsey, Banning Garrett, Jack Goldstone, Deborah Gordon, Steve Haber, John Haldon, Paul Halstead, Ian Hodder, Agnes Hsu, Parag Khanna, Karla Kierkegaard, Kristian Kristiansen, David Laitin, Michael Lässig, Mark Lewis, Anthony Ling, Li Liu, Angus Maddison, Alessio Magnavacca, Paolo Malanima, Joe Manning, Michael McCormick, Tom McLellan, Joel Mokyr, Suresh Naidu, Reviel Netz, Doug North, Josh Ober, Isaac Oppen, Anne Porter, Michael Puett, Kumar Ramakrishna, Anna Razeto, Colin Renfrew, Jim Robinson, Richard Saller, Walter Scheidel, Glenn Schwartz, Hugo Scott-Gall, Steve Shennan, Dan Smail, Vaclav Smil, Larry Smith, Mike Smith, Anthony Snodgrass, Peter Temin, Nick Thomas, Peter Turchin, Barry Weingast, Todd Whitelaw, James

Whitley, Greg Woolf, and Norm Yoffee. All of them have helped me see things differently. I hope they will think that I have put their advice to good use.

I would never have written *The Measure of Civilization* without the encouragement of Rob Tempio at Princeton University Press and Daniel Crewe at Profile Books, who saw a book where I had seen only a dataset; without the guidance of Sandy Dijkstra and Arabella Stein, who brought everyone together; without the support and patience of Kathy St. John; or without the example of my father, Noel Morris, who taught me early on that it pays to count things.

Singapore
April 2012

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THE PROBLEM

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 prehistoric 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