EXCERPTS FROM GUNS, GERMS, AND STEEL

The Fates of Human Societies

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By Jared Diamond

Jared Mason Diamond (1937 — ) is an American scientist and author whose work draws from a variety of fields. He is currently a professor of geography and of physiology at UCLA. His 1997 book, Guns, Germs, and Steel: The Fates of Human Societies, from which the following passages are excerpted, won the 1998 Pulitzer Prize for general nonfiction and the Aventis Prize for Best Science Book. The basic premise of the book is to explain why Eurasian civilizations have survived and conquered others, while refuting the idea that Eurasian hegemony is due to intellectual, moral, or genetic superiority.
We all know that history has proceeded very differently for peoples from different parts of the globe. In the 13,000 years since the end of the last Ice Age, some parts of the world developed literate industrial societies with metal tools, other parts developed only nonliterate farming societies, and still others retained societies of hunter-gatherers with stone tools. Those historical inequalities have cast long shadows on the modern world, because the literate societies with metal tools have conquered or exterminated the other societies.

While those differences constitute the most basic fact of world history, the reasons for them remain uncertain and controversial. This puzzling question of their origins was posed to me 25 years ago in a simple, personal form. In July 1972 I was walking along a beach on the tropical island of New Guinea, where as a biologist I study bird evolution. I had already heard about a remarkable local politician named Yali, who was touring the district then. By chance, Yali and I were walking in the same direction on that day, and he overtook me. We walked together for an hour, talking during the whole time.

Our conversation began with a subject then on every New Guinean’s mind — the rapid pace of political developments. Papua New Guinea, as Yali’s nation is now called, was at that time still administered by Australia as a mandate of the United Nations, but independence was in the air...

After a while, Yali turned the conversation and began to quiz me.... He asked me, “Why is it that you white people developed so much cargo and brought it to New Guinea, but we black people had little cargo of our own?”

Although Yali’s question concerned only the contrasting lifestyles of New Guineans and of European whites, it can be extended to a larger set of contrasts within the modern world. Peoples of Eurasian origin, especially those still living in Europe and eastern Asia, plus those transplanted to North America, dominate the modern world in wealth and power. Other peoples, including most Africans, have thrown off European colonial domination but remain far behind in wealth and power. Still other peoples, such as the aboriginal inhabitants of Australia, the Americas, and southernmost Africa, are no longer even masters of their own lands but have been decimated, subjugated, and in some cases even exterminated by European colonialists.
Thus, questions about inequality in the modern world can be reformulated as follows. Why did wealth and power become distributed as they now are, rather than in some other way? For instance, why weren’t Native Americans, Africans, and Aboriginal Australians the ones who decimated, subjugated, or exterminated Europeans and Asians?

We can easily push this question back one step. As of the year 1500, when Europe’s worldwide colonial expansion was just beginning, peoples on different continents already differed greatly in technology and political organization. Much of Europe, Asia, and North Africa was the site of metal-equipped states or empires, some of them on the threshold of industrialization. Two Native American peoples, the Aztecs and the Incas, ruled over empires with stone tools. Parts of sub-Saharan Africa were divided among small states or chiefdoms with iron tools. Most other peoples — including all those of Australia and New Guinea, many Pacific islands, much of the Americas, and small parts of sub-Saharan Africa — lived as farming tribes or even still as hunter-gatherer bands using stone tools. Of course, those technological and political differences as of 1500 were the immediate cause of the modern world’s inequalities. Empires with steel weapons were able to conquer or exterminate tribes with weapons of stone and wood. How, though, did the world get to be the way it was in 1500? Once again, we can easily push this question back one step further, by drawing on written histories and archaeological discoveries.

Until the end of the last ice age, around 11,000 BCE, all peoples on all continents were still hunter-gatherers. Different rates of development on different continents, from 11,000 BCE to 1500 CE, were what led to the technological and political inequalities of 1500. While Aboriginal Australians and many Native Americans remained hunter-gatherers, most of Eurasia and much of the Americas and sub-Saharan Africa gradually developed agriculture, herding, metallurgy, and complex political organization. Parts of Eurasia, and one area of the Americas, independently developed writing as well. However, each of these new developments appeared earlier in Eurasia than elsewhere.... Thus, we can finally rephrase the question about the modern world’s inequalities as follows: why did human development proceed at such different rates on different continents? Those disparate rates constitute history’s broadest pattern....

...On the one hand, the proximate explanations are clear: some peoples developed guns, germs, steel, and other factors conferring political and economic power before others did; and some peoples never developed these power factors at all. On the other hand, the ultimate explanations — for example, why bronze tools appeared early in parts of
Eurasia, late and only locally in the New World, and never in Aboriginal Australia — remain unclear. Our present lack of such ultimate explanations leaves a big intellectual gap, since the broadest pattern of history thus remains unexplained.

Authors are regularly asked by journalists to summarize a long book in one sentence. For this book, here is such a sentence: "History followed 100 different courses for different peoples because of differences among peoples’ environments, not because of biological differences among peoples themselves.” Naturally, the notion that environmental geography and biogeography influenced societal development is an old idea. Nowadays, though, the view is not held in esteem by historians; it is considered wrong or simplistic, or it is caricatured as environmental determinism and dismissed, or else the whole subject of trying to understand worldwide differences is shelved as too difficult. Yet geography obviously has some effect on history; the open question concerns how much effect, and whether geography can account for history’s broad pattern.

The time is now ripe for a fresh look at these questions, because of new information from scientific disciplines seemingly remote from human history. Those disciplines include, above all, genetics, molecular biology, and biogeography as applied to crops and their wild ancestors; the same disciplines plus behavioral ecology, as applied to domestic animals and their wild ancestors; molecular biology of human germs and related germs of animals; epidemiology of human diseases; human genetics; linguistics; archaeological studies on all continents and major islands; and studies of the histories of technology, writing, and political organization....

...Food production — that is, the growing of food by agriculture or herding, instead of the hunting and gathering of wild foods — ultimately led to the immediate factors permitting [Eurasians’] triumph [over non-Eurasians’]. But the rise of food production varied around the globe...

[Peoples in some parts of the world developed food production by themselves; some other peoples acquired it in prehistoric times from those independent centers; and still others neither developed nor acquired food production prehistorically but remained hunter-gatherers until modern times....

...Geographic differences in the local suites of wild plants and animals available for domestication go a long way toward explaining why only a few areas became independent centers of food production, and
why it arose earlier in some of those areas than in others. From those few centers of origin, food production spread much more rapidly to some areas than to others. A major factor contributing to those differing rates of spread turns out to have been the orientation of the continents’ axes: predominantly west-east for Eurasia, predominantly north-south for the Americas and Africa.

....Far more Native Americans and other non-Eurasian peoples were killed by Eurasian germs than by Eurasian guns or steel weapons. Conversely, few or no distinctive lethal germs awaited would-be European conquerors in the New World. Why was the germ exchange so unequal? Here, the results of recent molecular biological studies are illuminating in linking germs to the rise of food production, in Eurasia much more than in the Americas.

Another chain of causation led from food production to writing, possibly the most important single invention of the last few thousand years. Writing has evolved de novo only a few times in human history, in areas that had been the earliest sites of the rise of food production in their respective regions.... Hence, for the student of world history, the phenomenon of writing is particularly useful for exploring another important constellation of causes: geography’s effect on the ease with which ideas and inventions spread.

What holds for writing also holds for technology. A crucial question is whether technological innovation is so dependent on rare inventor-geniuses, and on many idiosyncratic cultural factors, as to defy an understanding of world patterns. In fact, we shall see that, paradoxically, this large number of cultural factors makes it easier, not harder, to understand world patterns of technology. By enabling farmers to generate food surpluses, food production permitted farming societies to support full-time craft specialists who did not grow their own food and who developed technologies.

Besides sustaining scribes and inventors, food production also enabled farmers to support politicians.... Mobile bands of hunter-gatherers are relatively egalitarian, and their political sphere is confined to the band’s own territory and to shifting alliances with neighboring bands. With the rise of dense, sedentary, food-producing populations came the rise of chiefs, kings, and bureaucrats. Such bureaucracies were essential not only to governing large and populous domains but also to maintaining standing armies, sending out fleets of exploration, and organizing wars of conquest.
This book identifies several constellations of environmental factors that I believe provide a large part of the answer to Yali’s question. Recognition of those factors emphasizes the unexplained residue, whose understanding will be a task for the future....

Perhaps the biggest of these unsolved problems is to establish human history as a historical science, on a par with recognized historical sciences such as evolutionary biology, geology, and climatology. The study of human history does pose real difficulties, but those recognized historical sciences encounter some of the same challenges. Hence the methods developed in some of these other fields may also prove useful in the field of human history. Already, though, I hope to have convinced you, the reader, that history is not “just one damn fact after another,” as a cynic put it. There really are broad patterns to history, and the search for their explanation is as productive as it is fascinating....