

COLLAPSE

How Societies Choose
to Fail or Succeed.

By Jared Diamond.

Illustrated. 575 pp. Viking. \$29.95.

EIGHT years ago Jared Diamond realized what is, for authors, increasingly a fantasy -- he published a serious, challenging and complex book that became a huge commercial success. "Guns, Germs, and Steel" won a Pulitzer Prize, then sold a million copies, astonishing for a 480-page volume of archeological speculation on how the world reached its present ordering of nations. Now he has written a sequel, "Collapse," which asks whether present nations can last. Taken together, "Guns, Germs, and Steel" and "Collapse" represent one of the most significant projects embarked upon by any intellectual of our generation. They are magnificent books: extraordinary in erudition and originality, compelling in their ability to relate the digitized pandemonium of the present to the hushed agrarian sunrises of the far past. I read both thinking what literature might be like if every author knew so much, wrote so clearly and formed arguments with such care. All of which makes the two books exasperating, because both come to conclusions that are probably wrong.

"Guns" asked why the West is atop the food chain of nations. Its conclusion, that Western success was a coincidence driven by good luck, has proven extremely influential in academia, as the view is quintessentially postmodern. Now "Collapse" posits that the Western way of life is flirting with the sudden ruin that caused past societies like the Anasazi and the Mayans to vanish. Because this view, too, is exactly what postmodernism longs to hear, "Collapse" may prove influential as well.

Born in Boston in 1937, Diamond is a professor of geography at the University of California, Los Angeles. Initially he specialized in conservation biology, studying bird diversity in New Guinea; in 1985 he won one of the early MacArthur "genius grants." Gradually he began to wonder why societies of the western Pacific islands never developed the metallurgy, farming techniques or industrial production of Eurasia. Diamond also studied the application of natural-selection theory to physiology, and in 1999 received a National Medal of Science for that work, which is partly reflected in his book "Why Is Sex Fun?" (Sex is fun; the book is serious.) Today Diamond often returns to the Pacific rim, especially Australia, where in the outback one may still hear the rustle of distant animal cries just as our forebears heard them in the far past.

"Collapse" may be read alone, but begins where "Guns, Germs, and Steel" ended: essentially the two form a single 1,000-page book. The thesis of the first part is that environmental coincidences are the principal factor in human history. Diamond contends it was chance, not culture or brainpower, that brought industrial power first to Europe; Western civilization has nothing to boast about.

Many arguments in "Guns" were dazzling. Diamond showed, for example, that as the last ice age ended, by chance Eurasia held many plants that could be bred for controlled

farming. The Americas had few edible plants suitable for cross-breeding, while Africa had poor soil owing to the millions of years since it had been glaciated. Thus large-scale food production began first in the Fertile Crescent, China and Europe. Population in those places rose, and that meant lots of people living close together, which accelerated invention; in other locations the low-population hunter-gatherer lifestyle of antiquity remained in place. "Guns" contends the fundamental reason Europe of the middle period could send sailing ships to explore the Americas and Africa, rather than these areas sending sailing ships to explore Europe, is that ancient happenstance involving plants gave Europe a food edge that translated into a head start on technology. Then, the moment European societies forged steel and fashioned guns, they acquired a runaway advantage no hunter-gatherer society could possibly counter.

Also, as the ice age ended, Eurasia was home to large mammals that could be domesticated, while most parts of the globe were not. In early history, animals were power: huge advantages were granted by having cattle for meat and milk, horses and elephants for war. Horses -- snarling devil-monsters to the Inca -- were a reason 169 Spaniards could kill thousands of Incas at the battle of Cajamarca in 1532, for example. "Rhino-mounted Bantu shock troops could have overthrown the Roman Empire," Diamond speculates, but the rhino and other large mammals of Africa defied domestication, leaving that continent at a competitive disadvantage.

Large populations and the fact that Eurasians lived among domesticated animals meant Europe was rife with sicknesses to which the survivors acquired immunity. When Europeans began to explore other lands, their microbes wiped out indigenous populations, easing conquest. Almost all variations in societies, Diamond concludes, are caused not by societies themselves but by "differences in their environments"; the last 500 years of rising power for the West "has its ultimate roots in developments between about 11,000 B.C. and A.D. 1," the deck always stacked in Europe's favor.

In this respect, "Guns, Germs, and Steel" is pure political correctness, and its P.C. quotient was a reason the book won praise. But the book must not be dismissed because it is P.C.: sometimes politically correct is, after all, correct. The flaws of the work are more subtle, and they set the stage for "Collapse." One flaw was that Diamond argued mainly from the archaeological record -- a record that is a haphazard artifact of items that just happened to survive. We know precious little about what was going on in 11,000 B.C., and much of what we think we know is inferential. It may be decades or centuries until we understand human prehistory, if we ever do.

Diamond's analysis discounts culture and human thought as forces in history; culture, especially, is seen as a side effect of environment. The big problem with this view is explaining why China -- which around the year 1000 was significantly ahead of Europe in development, and possessed similar advantages in animals and plants -- fell behind. This happened, Diamond says, because China adopted a single-ruler society that banned change. True, but how did environment or animal husbandry dictate this? China's embrace of a change-resistant society was a cultural phenomenon. During the same period China was adopting centrally regimented life, Europe was roiled by the idea of

individualism. Individualism proved a potent force, a source of power, invention and motivation. Yet Diamond considers ideas to be nearly irrelevant, compared with microbes and prevailing winds. Supply the right environmental conditions, and inevitably there will be a factory manufacturing jet engines.

Many thinkers have attempted single-explanation theories for history. Such attempts hold innate appeal -- wouldn't it be great if there were a single explanation! -- but have a poor track record. My guess is that despite its conspicuous brilliance, "Guns, Germs, and Steel" will eventually be viewed as a drastic oversimplification. Its arguments come perilously close to determinism, and it is hard to believe that the world is as it is because it had to be that way.

Diamond ended his 1997 book by supposing, "The challenge now is to develop human history as a science." That is what "Collapse" attempts -- to use history as a science to forecast whether the current world order will fail. To research his new book, Diamond traveled to the scenes of vanished societies like Easter Island, Norse Greenland, the Anasazi, the Mayans. He must have put enormous effort into "Collapse," and his willingness to do so after achieving wealth and literary celebrity -- surely publishers would have taken anything he dashed off -- speaks well of his dedication.

"Collapse" spends considerable pages contemplating past life on Easter Island, as well as on Pitcairn and Henderson islands, and on Greenland, an island. Deforestation, the book shows, was a greater factor in the breakdown of societies in these places than commonly understood. Because trees take so long to regrow, deforestation has more severe consequences than crop failure, and can trigger disastrous erosion. Centuries ago, the deforestation of Easter Island allowed wind to blow off the island's thin topsoil: "starvation, a population crash and a descent into cannibalism" followed, leaving those haunting statues for Europeans to find. Climate change and deforestation that set off soil loss, Diamond shows, were leading causes of the Anasazi and Mayan declines. "Collapse" reminds us that like fossil fuels, soil is a resource that took millions of years to accumulate and that humanity now races through: Diamond estimates current global soil loss at 10 to 40 times the rate of soil formation. Deforestation "was a or the major factor" in all the collapsed societies he describes, while climate change was a recurring menace.

How much do Diamond's case studies bear on current events? He writes mainly about isolated islands and pretechnology populations. Imagine the conditions when Erik the Red founded his colony on frigid Greenland in 984 -- if something went wrong, the jig was up. As isolated systems, islands are more vulnerable than continents. Most dire warnings about species extinction, for example, are estimates drawn from studies of island ecologies, where a stressed species may have no place to retreat to. "Collapse" declares that "a large fraction" of the world's species may fall extinct in the next 50 years, which is the kind of conclusion favored by biologists who base their research on islands. But most species don't live on islands. The International Union for the Conservation of Nature, the leading authority on biodiversity, estimates that about 9 percent of the world's vertebrate species are imperiled. That's plenty bad enough, but does not support the idea that a "large fraction" of species are poised to vanish. Like most species, most people do

not live on islands, yet "Collapse" tries to generalize from environmental failures on isolated islands to environmental threats to society as a whole.

Diamond rightly warns of alarming trends in biodiversity, soil loss, freshwater limits (China is depleting its aquifers at a breakneck rate), overfishing (much of the developing world relies on the oceans for protein) and climate change (there is a strong scientific consensus that future warming could be dangerous). These and other trends may lead to a global crash: "Our world society is presently on a nonsustainable course." The West, especially, is in peril: "The prosperity that the First World enjoys at present is based on spending down its environmental capital." Calamity could come quickly: "A society's steep decline may begin only a decade or two after the society reaches its peak numbers, wealth and power."

Because population pressure played a prominent role in the collapses of some past societies, Diamond especially fears population growth. Owing to sheer numbers it is an "impossibility" that the developing world will ever reach Western living standards. Some projections suggest the globe's population, now about 6 billion, may peak at about 8.5 billion. To Diamond, this is a nightmare scenario: defenders of population growth "nonchalantly" mention "adding 'only' 2.5 billion more people . . . as if that were acceptable." Population growth has made Los Angeles "less appealing," especially owing to traffic: "I have never met an Angeleno (and very few people anywhere in the world) who personally expressed a desire for increased population." About the only nonaboriginal society Diamond has kind words for is pre-Meiji Japan, where population control was strictly enforced. But wait -- pre-Meiji Japan collapsed!

If 2.5 billion more people are not "acceptable," how, exactly, would Diamond prevent their births? He does not say. Nuclear war, plague, a comet strike or coerced mass sterilizations seem the only forces that might stop the human population from rising to its predicted peak. Everyone dislikes traffic jams and other aspects of population density, but people are here and cannot be wished away; the challenge is to manage social pressure and create enough jobs until the population peak arrives. And is it really an "impossibility" for developing-world living standards to reach the Western level? A century ago, rationalists would have called global consumption of 78 million barrels per day of petroleum an impossibility, and that's the latest figure.

If trends remain unchanged, the global economy is unsustainable. But the Fallacy of Uninterrupted Trends tells us patterns won't remain unchanged. For instance, deforestation of the United States, rampant in the 19th century, has stopped: forested acreage of the country began rising during the 20th century, and is still rising. Why? Wood is no longer a primary fuel, while high-yield agriculture allowed millions of acres to be retired from farming and returned to trees. Today wood is a primary fuel in the developing world, so deforestation is acute; but if developing nations move on to other energy sources, forest cover will regrow. If the West changes from fossil fuel to green power, its worst resource trend will not continue uninterrupted.

Though Diamond endorses "cautious optimism," "Collapse" comes to a wary view of the

human prospect. Diamond fears our fate was set in motion in antiquity -- we're living off the soil and petroleum bequeathed by the far past, and unless there are profound changes in behavior, all may crash when legacy commodities run out. Oddly, for someone with a background in evolutionary theory, he seems not to consider society's evolutionary arc. He thinks backward 13,000 years, forward only a decade or two. What might human society be like 13,000 years from now? Above us in the Milky Way are essentially infinite resources and living space. If the phase of fossil-driven technology leads to discoveries that allow Homo sapiens to move into the galaxy, then resources, population pressure and other issues that worry Diamond will be forgotten. Most of the earth may even be returned to primordial stillness, and the whole thing would have happened in the blink of an eye by nature's standards.