



The Ends of the World as We Know Them

"Those who cannot remember the past, are condemned to repeat it."

-Santayana

By Jared Diamond
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Los Angeles - New Year's weekend traditionally is a time for us to reflect, and to make resolutions based on our reflections. In this fresh year, with the United States seemingly at the height of its power and at the start of a new presidential term, Americans are increasingly concerned and divided about where we are going. How long can America remain ascendant? Where will we stand 10 years from now, or even next year?

Such questions seem especially appropriate this year. History warns us that when once-powerful societies collapse, they tend to do so quickly and unexpectedly. That shouldn't come as much of a surprise: peak power usually means peak population, peak needs, and hence peak vulnerability. What can be learned from history that could help us avoid joining the ranks of those who declined swiftly? We must expect the answers to be complex, because historical reality is complex: while some societies did indeed collapse spectacularly, others have managed to thrive for thousands of years without major reversal.

When it comes to historical collapses, five groups of interacting factors have been especially important: the damage that people have inflicted on their environment; climate change; enemies; changes in friendly trading partners; and the society's political, economic and social responses to these shifts. That's not to say that all five causes play a role in every case. Instead, think of this as a useful checklist of factors that should be examined, but whose relative importance varies from case to case.

For instance, in the collapse of the Polynesian society on Easter Island three centuries ago, environmental problems were dominant, and climate change, enemies and trade were insignificant; however, the latter three factors played big roles in the disappearance of the medieval Norse colonies on Greenland. Let's consider two examples of declines stemming from different mixes of causes: the falls of classic Maya civilization and of Polynesian settlements on the Pitcairn Islands.

Maya Native Americans of the Yucatan Peninsula and adjacent parts of Central America developed the New World's most advanced civilization before Columbus. They were innovators in writing, astronomy, architecture and art. From local origins around 2,500 years ago, Maya societies rose especially after the year A.D. 250, reaching peaks of population and sophistication in the late 8th century.

Thereafter, societies in the most densely populated areas of the southern Yucatan underwent a steep political and cultural collapse: between 760 and 910, kings were overthrown, large areas were abandoned, and at least 90 percent of the population disappeared, leaving cities to become overgrown by jungle. The last known date recorded on a Maya monument by their so-called Long Count calendar corresponds to the year 909. What happened?

A major factor was environmental degradation by people: deforestation, soil erosion and water management problems, all of which resulted in less food. Those problems were exacerbated by droughts, which may have been partly caused by humans themselves through deforestation. Chronic warfare made matters worse, as more and more people fought over less and less land and resources.

Why weren't these problems obvious to the Maya kings, who could surely see their forests vanishing and their hills becoming eroded? Part of the reason was that the kings were able to insulate themselves from problems afflicting the rest of society. By extracting wealth from commoners, they could remain well fed while everyone else was slowly starving.

What's more, the kings were preoccupied with their own power struggles. They had to concentrate on fighting one another and keeping up their images through ostentatious displays of wealth. By insulating themselves in the short run from the problems of society, the elite merely bought themselves the privilege of being among the last to starve.

Whereas Maya societies were undone by problems of their own making, Polynesian societies on Pitcairn and Henderson Islands in the tropical Pacific Ocean were undone largely by other people's mistakes. Pitcairn, the uninhabited island settled in 1790 by the H.M.S. Bounty mutineers, had actually been populated by Polynesians 800 years earlier. That society, which left behind temple platforms, stone and shell tools and huge garbage piles of fish and bird and turtle bones as evidence of its existence, survived for several centuries and then vanished. Why?

In many respects, Pitcairn and Henderson are tropical paradises, rich in some food sources and essential raw materials. Pitcairn is home to Southeast Polynesia's largest quarry of stone suited for making adzes, while Henderson has the region's largest breeding seabird colony and its only nesting beach for sea turtles. Yet the islanders depended on imports from Mangareva Island, hundreds of miles away, for canoes, crops, livestock and oyster shells for making tools.

Unfortunately for the inhabitants of Pitcairn and Henderson, their Mangarevan trading partner collapsed for reasons similar to those underlying the Maya decline: deforestation, erosion and warfare. Deprived of essential imports in a Polynesian equivalent of the 1973 oil crisis, the Pitcairn and Henderson societies declined until everybody had died or fled.

The Maya and the Henderson and Pitcairn Islanders are not alone, of course. Over the centuries, many other societies have declined, collapsed or died out. Famous victims include the Anasazi in the American Southwest, who abandoned their cities in the 12th century because of environmental problems and climate change, and the Greenland Norse, who disappeared in the 15th century because of all five interacting factors on the checklist. There were also the ancient Fertile Crescent societies, the Khmer at Angkor Wat, the Moche society of Peru - the list goes on.

But before we let ourselves get depressed, we should also remember that there is another long list of cultures that have managed to prosper for lengthy periods of time. Societies in Japan, Tonga, Tikopia, the New Guinea Highlands and Central and Northwest Europe, for example, have all found ways to sustain themselves. What separates the lost cultures from those that survived? Why did the Maya fail and the shogun succeed?

Half of the answer involves environmental differences: geography deals worse cards to some societies than to others. Many of the societies that collapsed had the misfortune to occupy dry, cold or otherwise fragile environments, while many of the long-term survivors enjoyed more robust and fertile surroundings. But it's not the case that a congenial environment guarantees success: some societies (like the Maya) managed to ruin lush environments, while other societies - like the Incas, the Inuit, Icelanders and desert Australian Aborigines - have managed to carry on in some of the earth's most daunting environments.

The other half of the answer involves differences in a society's responses to problems. Ninth-century New Guinea Highland villagers, 16th-century German landowners, and the Tokugawa shoguns of 17th-century Japan all recognized the deforestation spreading around them and solved the problem, either by developing scientific reforestation (Japan and Germany) or by transplanting tree seedlings (New Guinea). Conversely, the Maya, Mangarevans and Easter Islanders failed to address their forestry problems and so collapsed.

Consider Japan. In the 1600's, the country faced its own crisis of deforestation, paradoxically brought on by the peace and prosperity following the Tokugawa shoguns' military triumph that ended 150 years of civil war. The subsequent explosion of Japan's population and economy set off rampant logging for construction of palaces and cities, and for fuel and fertilizer.

The shoguns responded with both negative and positive measures. They reduced wood consumption by turning to light-timbered construction, to fuel-efficient stoves and heaters, and to coal as a source of energy. At the same time, they increased wood production by developing and carefully managing plantation forests. Both the shoguns and the Japanese peasants took a long-term view: the former expected to pass on their power to their children, and the latter expected to pass on their land. In addition, Japan's isolation at the time made it obvious that the country would have to depend on its own resources and couldn't meet its needs by pillaging other countries. Today, despite having the highest human population density of any large developed country, Japan is more than 70 percent forested.

There is a similar story from Iceland. When the island was first settled by the Norse around 870, its light volcanic soils presented colonists with unfamiliar challenges. They proceeded to cut down trees and stock sheep as if they were still in Norway, with its robust soils. Significant erosion ensued, carrying half of Iceland's topsoil into the ocean within a century or two. Icelanders became the poorest people in Europe. But they gradually learned from their mistakes, over time instituting stocking limits on sheep and other strict controls, and establishing an entire government department charged with landscape management. Today, Iceland boasts the sixth-highest per-capita income in the world.

What lessons can we draw from history? The most straightforward: take environmental problems seriously. They destroyed societies in the past, and they are even more likely to do so now. If 6,000 Polynesians with stone tools were able to destroy Mangareva Island, consider what six billion people with metal tools and bulldozers are doing today. Moreover, while the Maya collapse affected just a few neighboring societies in Central America, globalization now means that any society's problems have the potential to affect anyone else. Just think how crises in Somalia, Afghanistan and Iraq have shaped the United States today.

Other lessons involve failures of group decision-making. There are many reasons why past societies made bad decisions, and thereby failed to solve or even to perceive the problems that would eventually destroy them. One reason involves conflicts of interest, whereby one group within a society (for instance, the pig farmers who caused the worst erosion in medieval Greenland and Iceland) can profit by engaging in practices that damage the rest of society. Another is the pursuit of short-term gains at the expense of long-term survival, as when fishermen overfish the stocks on which their livelihoods ultimately depend.

History also teaches us two deeper lessons about what separates successful societies from those heading toward failure. A society contains a built-in blueprint for failure if the elite insulates itself from the consequences of its actions. That's why Maya kings, Norse Greenlanders and Easter Island chiefs made choices that eventually undermined their societies. They themselves did not begin to feel deprived until they had irreversibly destroyed their landscape.

Could this happen in the United States? It's a thought that often occurs to me here in Los Angeles, when I drive by gated communities, guarded by private security patrols, and filled with people who drink bottled water, depend on private pensions, and send their children to private schools. By doing these things, they lose the motivation to support the police force, the municipal water supply, Social Security and public schools. If conditions deteriorate too much for poorer people, gates will not keep the rioters out. Rioters eventually burned the palaces of Maya kings and tore down the statues of Easter Island chiefs; they have also already threatened wealthy districts in Los Angeles twice in recent decades.

In contrast, the elite in 17th-century Japan, as in modern Scandinavia and the Netherlands, could not ignore or insulate themselves from broad societal problems. For instance, the Dutch upper class for hundreds of years has been unable to insulate itself from the Netherlands' water management problems for a simple reason: the rich live in the same drained lands below sea level as the poor. If the dikes and pumps keeping out the sea fail, the well-off Dutch know that they will drown along with everybody else, which is precisely what happened during the floods of 1953.

The other deep lesson involves a willingness to re-examine long-held core values, when conditions change and those values no longer make sense. The medieval Greenland Norse lacked such a willingness: they continued to view themselves as transplanted Norwegian pastoralists, and to despise the Inuit as pagan hunters, even after Norway stopped sending trading ships and the climate had grown too cold for a pastoral existence. They died off as a result, leaving Greenland to the Inuit. On the other hand, the British in the 1950's faced up to the need for a painful

reappraisal of their former status as rulers of a world empire set apart from Europe. They are now finding a different avenue to wealth and power, as part of a united Europe.

In this New Year, we Americans have our own painful reappraisals to face. Historically, we viewed the United States as a land of unlimited plenty, and so we practiced unrestrained consumerism, but that's no longer viable in a world of finite resources. We can't continue to deplete our own resources as well as those of much of the rest of the world.

Historically, oceans protected us from external threats; we stepped back from our isolationism only temporarily during the crises of two world wars. Now, technology and global interconnectedness have robbed us of our protection. In recent years, we have responded to foreign threats largely by seeking short-term military solutions at the last minute.

But how long can we keep this up? Though we are the richest nation on earth, there's simply no way we can afford (or muster the troops) to intervene in the dozens of countries where emerging threats lurk - particularly when each intervention these days can cost more than \$100 billion and require more than 100,000 troops.

A genuine reappraisal would require us to recognize that it will be far less expensive and far more effective to address the underlying problems of public health, population and environment that ultimately cause threats to us to emerge in poor countries. In the past, we have regarded foreign aid as either charity or as buying support; now, it's an act of self-interest to preserve our own economy and protect American lives.

Do we have cause for hope? Many of my friends are pessimistic when they contemplate the world's growing population and human demands colliding with shrinking resources. But I draw hope from the knowledge that humanity's biggest problems today are ones entirely of our own making. Asteroids hurtling at us beyond our control don't figure high on our list of imminent dangers. To save ourselves, we don't need new technology: we just need the political will to face up to our problems of population and the environment.

I also draw hope from a unique advantage that we enjoy. Unlike any previous society in history, our global society today is the first with the opportunity to learn from the mistakes of societies remote from us in space and in time. When the Maya and Mangarevans were cutting down their trees, there were no historians or archaeologists, no newspapers or television, to warn them of the consequences of their actions. We, on the other hand, have a detailed chronicle of human successes and failures at our disposal. Will we choose to use it?

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For discussion:

1. What's the KEY difference between the downfall of Maya and some Polynesian societies?
2. Why did the "Maya fail and the Shogun succeed"?
3. What are the lessons to be learned from history here?
4. Are any of our original topic questions answered in this article?

How did it come to this? How did we get here? Where do we come from? Why did some soar so long ago, but depart so quickly, leaving not a soul, who remembers them? What great force conceals such a mystery? Why have some stood so tall, while others struggle just to stand? Who are we that we would deny one another; that the strong would enslave the weak? What is this great struggle, with such despair? What brought this upon us? There is so much we do not understand. Why some are so different than others. How such beauty could hide such suffering. Strange seems the way of things. How some can speak so softly, while others are heard round the world, and yet others long ago were silenced. How did it come to this, and where to we go from here?

5. How could Diamond's five interacting factors explain the downfall of some multinational corporations? Give an example.
6. What are some of the implications of this article for nations?
7. How about for businesses?
8. Why is this our topic article? (i.e. the topic of "How did it come to this?")