

# **THE COLLAPSE OF COMPLEX SOCIETIES**

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In the middle part of the twentieth century, before *The Walking Dead*, the historiography of civilizational collapse was dominated by Arnold Toynbee's multi-volume *A Study of History*, with his "challenge and response" dynamic. Before that, stretching back into the nineteenth century, other analyses analogized the lives of civilizations to the lives of humans, most notably in Oswald Spengler's enormously influential *The Decline of the West*, published in 1918. And many other writers over many centuries have, in different ways, examined why civilizations fail, the classic early modern example being Edward Gibbon's analysis of Rome. Joseph Tainter arrived in 1988, with this book, to offer an alternative—namely, total economic determinism filtered through a framework of his own devising. Not a very successful framework, to be sure, but at least one that provides some food for thought.

Tainter is an anthropologist, so he views history through that prism. Moreover, *The Collapse of Complex Societies* is an academic monograph, so it has all the defects of that genre. Nobody would call the writing spicy, although there are flashes of humor. The author deliberately frequently summarizes and repeats, even though this is a short book, and he constantly cites other equally boring academics for minor points. Thus, we learn a great deal about the state of anthropological (and archaeological) knowledge as of thirty years ago. But, since this is a narrow anthropological analysis, we are denied any substantial linking of that knowledge to history, of which Tainter seems under-informed at best.

He probably wouldn't disagree, or rather, he would say that most history is irrelevant, if not bunk. For Tainter, if it can't be quantified, it doesn't exist. He has the soul of an economist trapped at the desk of an anthropologist. This is a minor strength and a major weakness of his book. It is a strength in that his hypothesis is somewhat testable, at least relative to a Toynbee-type analysis. It is a weakness in that it leads to a materialist *reductio ad absurdum*. Not for Tainter any belief in what John Maynard Keynes called "animal spirits," and not for Tainter any belief that any culture is superior in any way to any other. All cultures as culture are imprisoned in the iron framework that Tainter builds, subject

to the inevitable pressure of econometrics. They are mere ephemera randomly associated with the purely material factors that are wholly determinative of the arc of every society in human history.

Tainter begins, logically enough by defining “collapse.” He acknowledges that modern man, and early modern man, has been fascinated by collapse—for centuries by Rome’s collapse, and today by fears and premonitions of our own collapse, as the early modern belief in inevitable progress has eroded. Here Tainter unveils the variable that explains everything for him—complexity. He uses complexity as both a definitional marker for societies and as a yardstick for measuring their collapse. “A society has collapsed when it displays a rapid, significant loss of an established level of sociopolitical complexity.” Elements of complexity as thus defined include everything from centralized control to social stratification to acquisition of territory. This is unexceptional enough, in that it paints the definition with a broad enough brush that few would disagree. Nowhere, though, is complexity evaluated other than with respect to quantifiable variables—ones that, if they have not been quantified because of lack of data, could at least be quantified with the right data.

Next Tainter applies this definition to capsule summaries of seventeen collapsed complex societies, from the Western Chou Empire to the Hohokam (who feature in Wallace Stegner’s *Mormon Country*) to the Minoans to the Ik. (He paints the Ik, in Uganda, as an example of extreme collapse, alleging, for example, that children are abandoned by their mothers at age three and that sharing is nonexistent in the society. As with all fieldwork anthropological assessments that seem to contradict human nature, it appears that the researchers who drew this conclusion were fooled by their interlocutors, and it is now realized that Ik society is not nearly as dreadful as Tainter says—just like Margaret Mead was led around by the nose by her Samoan interlocutors while they laughed at her behind her back for being gullible.) In each summarized case, he briefly applies a few of his markers for collapse to a truncated history of the society, along with a short postscript about the society and geographical area, and concludes that most or all of his quantifiable markers characterize collapse, so his definition is correct.

Naturally enough, the next topic to get the author’s focus is complexity itself, in the form of states, and how it develops from simpler

modes of human existence. This is well-trodden ground, from those like Francis Fukuyama who ascribe most development of complex societies to warfare to those with a more anarchist bent, like James C. Scott, who view complex societies as a dubious blessing resulting from changes in food production. Tainter groups theories into “conflict” and “integration” theories, with the former claiming that states resulted from individuals and groups subjugating others for their own benefit, and the latter claiming that states arose to benefit society as a whole. He boldly decides that both are partially right, and moves on, since, after all, what he cares about is complexity, not how we got there.

Tainter proceeds to evaluate the study of collapse itself, with an eye to establishing himself as unique, and all predecessors as pretenders. The core of his objection to other analyses of collapse is that they too often revolve around “value judgments,” an epithet Tainter hurls around with wild abandon. He loathes any kind of non-quantifiable ranking that implies, for example, that sophisticated art, literary accomplishments, monumental architecture, or philosophy are characteristics of complex societies—that is, of civilizations. Similarly, he rejects as not wrong, but incoherent, the idea that civilized societies are superior to uncivilized societies. For Tainter the economic determinist, superiority is only superior when it is measurable, using a scale of which he approves, and all other superiority is a value judgment, and hence anathema. Therefore, he concludes that “A civilization is the cultural system of a complex society,” and “features that popularly define a civilized society—such as great traditions of art and writing—are [merely] epiphenomena or covariables of social, political, and economic complexity. Complexity calls these traditions into being, for such art and literature serve social and economic purposes and classes that exist only in complex settings.”

Tainter then offers what purports to be a survey of all theories of collapse, separated into eleven in all. These include resource depletion, catastrophe, intruders, class conflict, and what he calls “mystical factors,” under which rubric he includes Toynbee, Spengler, Gibbon, and anything non-quantifiable. He evaluates, both in the abstract and by reference to one or more collapsed civilizations, and rejects, all of these theories, as either just wrong, or as insufficient and needing to be integrated into a more competent theory not yet advanced (no prize for guessing whose

theory that is). Most of his focus, though, is on class conflict theories and mystical theories, both of which he attacks in scathing terms.

On class conflict, he notes that since “exploitation is a normal cost of stratification” and “bad government is a normal cost of government,” so “if exploitation and misadministration are normal aspects of hierarchy, then it is difficult to see these as sources for the collapse of hierarchies.” Touché. On mystical theories, though, Tainter is less convincing. He complains that there are far too many incompatible theories of why virtue and morality, however defined, created or destroyed civilizations, citing, among others, Sallust, Machiavelli’s *Discourses on Livy*, and Montesquieu’s *Considerations on the Causes of the Greatness of the Romans and their Decline*, as well as more modern writers such as Henry Adams, and, of course, Spengler and Toynbee. He complains all these are “value-laden,” his ultimate censure, and calls them “murky,” “superficial,” “narrow,” and “hateful.” OK, then. At no point, though, does he make any effort to actually address any such theory; he bootstraps his disgust into a conclusion, in essence treating Toynbee as no better than an Aztec priest tearing the hearts out of sacrificial victims to appease Huitzilopochtli and ensure the rising of the Sun. Then he says “It seems almost unsporting to treat Spengler and Toynbee so severely,” having not treated them at all other than with insults, and supports his non-argument with ranting “Value judgments are another matter altogether. A scholar trained in anthropology learns early on that such valuations are scientifically inadmissible, detrimental to the cause of understanding, intellectual indefensible, and simply unfair. . . . Cultural relativity may be one of the most important contributions anthropology can make to the social and historical sciences, and to the public at large.” Preening himself on his importance and superior insight, but offering zero evidence or argument, he moves on.

Now, perhaps, “mystical arguments” (a better term for which would be “virtue arguments”) are, as compared with deterministic, quantifiable arguments, like ships passing in the night, or like dark matter and baryonic matter, weakly interacting at best. But that does not mean that virtue arguments have nothing to offer. Any person with a deep knowledge of history (which Tainter very evidently lacks) knows that there is a tide in the affairs of men, that is purely qualitative yet is very real. Thus, Tainter, when discussing the Ottomans and their slow collapse, says

of another scholar, “He simply stated that later Islam was not willing to learn from others, which clarifies nothing.” Quite the contrary—if true, it clarifies everything. It is just not quantifiable. This is not to say that what Tainter offers is wrong, but it is most definitely incomplete. Virtue cannot be quantified, and if it can be quantified it is not virtue, but that does not mean that virtue, as well as other intangible cultural characteristics, do not exist and are not critically important for the growth and decline of a civilization, or for the globe itself. (Rudyard Kipling perhaps captured the role of moral virtues in civilizations best in “The Gods of the Copybook Headings.”) This is why purely economic theories for the Great Divergence are always miserably incomplete—they take no account of culture, which cannot be quantified, but is determinative of the course of a civilization. But for Tainter, culture does not exist, except as irrelevant “epiphenomena,” and this means that at best his book is weak.

In any case, the rest of the book is devoted to developing Tainter’s economic model of collapse, which is in essence that as complexity increases, which it must as a society responds to challenges, because of diminishing returns, eventually a society cannot increase complexity without paying more for it than the marginal benefit received, and thus the society becomes unable to respond effectively to challenges, and it collapses to a lower level of complexity in order to become economically coherent again. The only way to put this off, according to Tainter, is to obtain some new “energy subsidy,” which can be anything from conquering new territory to actual energy in the form of fossil fuels (he thankfully does not mention nuclear fusion, which ever since I was a small child forty years ago I have been told is going to supply all our energy in twenty years).

All this is pretty obvious, actually, just prettied up with graphs and attempts at quantification. Some of it is overly pessimistic—Tainter talks about how investing in energy production already (in 1988) offered sharply diminishing returns, but he neglects countervailing trends, such as the diminishing cost of light production (quantified by William Nordhaus in the 1990s). Tainter applies his diminishing marginal returns analysis broadly, to everything from agriculture to scientific progress. Then he applies it in detail to Rome (obsessively focusing, for some reason, on the debasement of coinage), the Classic Maya, and the Chaco

Canyon culture (in today's New Mexico), attempting to show that all traditional models of collapse are inadequate specifically for these three cultures and that his model of diminishing marginal return on investment explains their collapse satisfactorily. He concludes, as well, that the peoples of these collapsed societies were, on the whole, better off after the collapse, since collapse is an "economizing process," and, after all, a collapsed society has "restore[d] the marginal return on organizational investment to a more favorable level." (Tainter explicitly claims that no other society moves in on a collapsed society with the intent of sheer destruction, rather than getting an "energy subsidy," ignoring counter-examples like the Mongols.) Along with James C. Scott in *Against the Grain*, Tainter thinks that the costs of a complex society may simply exceed its benefits to the people in that society, who will therefore be better off at a less complex level of organization. A collapsed society has not failed to adapt; it has taken the best path available. Collapse is not synonymous with anarchy or a Hobbesian state of nature; it's just another way of organizing, at least much of the time. We may listen to tunes on a reed flute rather than Bach, and die in our twenties, but at least our marginal returns on investing in complexity will be up!

One gap in Tainter's analysis is that his model does not address complex societies where problem-solving does not require increases in complexity. He nods vaguely in this direction when answering the anticipated criticism that he does not take into account possible equilibria, but only vaguely. Tainter's model of complexity is that of a hierarchy, rather than a network, a distinction made much of in Niall Ferguson's recent *The Square and the Tower*. Arguably this make sense, for all past complex societies have been strongly hierarchical in nature. However, there is a plausible argument that modern technology, as well as modern habits of thought, whatever their drawbacks may be, permit a society to be organized with dispersed problem solving by networks, which may, to some extent, be immune from diminishing returns. You don't have to believe that crowdsourcing is a magic cure-all to think that the Hayekian model of the market could have more application than to just economics—that perhaps a complex society could still be decentralized and less hierarchical, in a way that, even if Tainter is right, new problems can be addressed without increases in complexity that necessarily experience diminishing returns. Sure, such a techno-libertarian paradise

exists nowhere now (though maybe certain aspects of the internet are a step in this direction), but as an alternative, it's on offer in a way that's new in human history.

Finally, Tainter applies his model to today. He notes that the modern world is different, not in its possible non-hierarchical approach to complexity, but in that collapse can only occur in a power vacuum, where no competitor will move in immediately, and no such power vacuum exists in the modern world on any relevant scale. While trying not to be pessimistic, he rejects the idea that technology will substitute for (supposedly) necessary investments in increased complexity, so ever less profitable investments will continue to be required even over the objections of the masses, and concludes that if and when modern society collapses, it will take longer, but be global, because no power vacuum exists—until it does, on a universal scale. He's probably right about that, but he's wrong about the economic determinism, which is far too narrow a framework through which to evaluate the fabric of human societies.