GLOBAL CIVILIZATION—YESTERDAY, TODAY AND TOMORROW

David Wilkinson
Department of Political Science, UCLA, USA.

Keywords: Civilization, Central civilization, global civilization, globalization.

Contents
1. Introduction
2. What is "a Civilization"?
3. Once There Were Many: A Partial Roster of Civilizations
4. Now One Remains: The Emergence of a Single Global Civilization
5. The Unification Process
6. What was the Advantage of Central Civilization? And of its "West"?
7. Was the Actual Course of the Globalization of Civilization Inevitable?
8. The Dialogues of Civilizations
9. Challenges for a Global Civilization
10. Conclusion
Glossary
Bibliography
Biographical Sketch

Summary
In defining "a civilization" we are forced to choose between a definition based upon cultural homogeneity and transactional-network connectivity. In fact, only the network concept is viable. Civilizations are strongly connected politico-military networks of cities; they are also heterogeneous, culturally pluralistic. For most of the past of civilization, there coexisted several such civilizations; today there is only one civilization on the face of the earth. Like its predecessors, it is a multicultural city-network; unlike them, it is of global scope. The many became one by way of growth processes, encounters, collisions and fusions, generally involving violence. Certain problems observed in the present monocivilizational globe have precedents in the pasts of its predecessors whose study might prove helpful: climate shifts, plagues and environmental devastations come sharply to mind.

1. Introduction
Despite theories of a "clash of civilizations" (S. Huntington) or programs for a "dialogue of civilizations" (M. Khatami), there exists on the Earth today only one civilization, a single global civilization. Clashes and dialogues between civilizations have indeed existed in the past, but over time they have relentlessly been transformed into far more intimate, and far more intense, culture-clashes and dialogues within civilizations, and at last into clashes and dialogues within the single global civilization.
As recently as the beginning of the nineteenth century several independent civilizations still existed (i.e. those centered on China, Japan, India and the West); now there remains but one. The single global civilization is the current manifestation of a civilization, multicultural like its components, that emerged about 1500 B.C. in the Middle East when the growing Egyptian and Mesopotamian civilizations collided (most notably in Syria), became inextricably linked to one another, and fused into a single civilization. This new fusional entity has since then expanded over the entire planet and absorbed, on unequal terms, all other previously independent civilizations. Since it was not initially of global scale, this entity needs a name. Its earliest incarnation has increasingly been called “Near-Eastern”; but this will not do for its later, much larger geographic range. Herein it is styled “Central” civilization, its earliest phase being called “Middle Eastern,” its final and contemporary phase “Global.”

2. What is "a Civilization"?

It is of course the case that the *principium individuationis*, the criterion for defining "a civilization" and delimiting it in space and time, affects, perhaps determines, one's roster of civilizations. We can trace the concept of civilization back to its Latin root *situs* (to be situated, to be in a place), and to a whole constellation of words *civitas* (city, city-state, state containing cities; also, citizenship), *civis* (citizen; townsman), *civicus* (of a town or city; of a citizen), *civillus* (political, of a state; as becomes a citizen), and *civilitas* (politics; politeness), some of which have entered the English vocabulary more or less directly (city, civic, civil, civility). The common elements of these concepts are *place, city, and state politics*.

Many other cultural features also show more or less strong tendencies to appear in urban, state-political societies. These include record-keeping (e.g writing), surplus production, specialist roles, specialist knowledge, extensive division of labor and economic exchange, markets, economic extraction, spatial stratification (cores and hinterlands), social stratification (classes and other hierarchies), conspicuous consumption and waste, monuments, fortifications, organized religions, etc.

The basic city/state criteria may allow us to discriminate between a society which is at a “civilized” level of complexity (and has cities, etc.) vs. one which lacks such features and does not fit that type; but how are we to distinguish one civilization from another, count the number of civilizations coexisting upon Earth at any historic moment, and decide whether we today live upon a globe with many civilizations, or with only one?

One definition of civilization (from The New Oxford American Dictionary 2001) refers to the element of place--"the society, culture, and the way of life in a particular area"; but how are we to determine the “particular area” whose citified political society constitutes a particular civilization? Two tests compete: the test of homogeneity vs. the test of interaction; the test of culture vs. the test of politics.

Most students of civilizations such as Spengler, Toynbee, Quigley, Melko, and Huntington, have defined civilizations as, or presumed them to be, culturally homogeneous urban societies, in Melko’s striking phrase "exclusive, durable, mortal *macrocultures*," and then sought to identify and draw boundaries between such societies. The effort,
however, has failed, in that it has produced only internally incoherent and mutually inconsistent rosters in answer to two key questions: how many civilizations have existed? And how many still-living civilizations are there?

The best count and conspectus of entities which have been denominated "civilizations" on culturalist criteria has been produced by the noted civilizationist Roger Wescott. In a survey of ten major authors he found that they identified as few as 7, or as many as 16, distinct civilizations in all world history. All ten authors recognize 3 civilizations, which Wescott chooses to label Chinese, Indic, and Western. Six to nine authors, a majority, concur on the existence of 5 more civilizations: Egyptian, Hellenic, Mexican, Peruvian and Levantine. Of these, a majority saw Chinese, Indic, Western and Levantine as alive, and the rest as dead. 21 more "civilizations" are recognized by one to five civilizationists; when "secondary" civilizations are added, 37 more are noticed by one or two writers each, for a total of 66 candidates. The list is not a coherent series: what some see as wholes, others see as parts of different wholes. Wescott proposes a hierarchical 5-level taxonomy (global, continental, national, provincial, local) to replace, perhaps to reconcile, the various lists.

The clearest example of the grave, perhaps insuperable difficulties faced by the culturalist definition of civilization appears when we ask, how many civilizations exist today? The answers given by five recent and prominent culturalists range from as few as 2 to as many as 11. Table 1 shows the survivors, as variously tallied:

<table>
<thead>
<tr>
<th>Author</th>
<th>Number</th>
<th>Civilizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quigley</td>
<td>2-3</td>
<td>Western and Orthodox (and perhaps Japanese)</td>
</tr>
<tr>
<td>Bagby</td>
<td>3</td>
<td>Western-European, Near-Eastern, Chinese and Indian.</td>
</tr>
<tr>
<td>Coulborn</td>
<td>5</td>
<td>Chinese, Indian, Islamic, Byzantine, Western.</td>
</tr>
<tr>
<td>Toynbee (original)</td>
<td>5-7</td>
<td>Western Christian, Orthodox Christian (or sometimes its two &quot;branches,&quot; Orthodox-Main Body, i.e. Byzantine, and Orthodox-Russian), Islamic, Hindu, Far-Eastern (or its two “branches”, Chinese and Japanese-Korean).</td>
</tr>
<tr>
<td>Huntington</td>
<td>7-8</td>
<td>Western, Islamic, Orthodox, Sinic, Hindu, Japanese, Latin American, perhaps African.</td>
</tr>
<tr>
<td>Toynbee (later)</td>
<td>11</td>
<td>Sinic, Indic, Orthodox Christian, Western, Islamic, Russian, South-East Asian, Japanese, Korean, Vietnamese, &quot;South-Western&quot; (Pueblo).</td>
</tr>
</tbody>
</table>

Table 1. Numbers and names of extant civilizations

Why so much disagreement? Perhaps a closer examination of these rosters of the living will clarify matters.

a. "Western". All 6 authors cited above accept this as a distinct and living reality. Would it be cynical, or even relevant, to point out that all 6 authors would usually be thought of as Westerners? Western and non-Western readers might wish to ponder. Concurrence upon its contents is not complete: while the composition of contemporary “Western” civilization would for all writers include Western Europe and North America, Huntington excludes Latin America.

©Encyclopedia of Life Support Systems (EOLSS)
b. "Chinese," "Sinic," or "Far-Eastern (Main Body)". 5 in favor, 1 opposed. A civilization of the past for Quigley; not contemporary because European intruders destroyed it 1790-1930. (Quigley sees civilizations as having been terminated when successful invasions disrupt their autonomous developmental processes.) Whether Japan, Korea, Vietnam and the Muslim areas of the Tarim Basin are to be seen as parts of this culture-civilization is not agreed.

c. "Indic," "Indian" or "Hindu". ("Indic" generally includes, but "Hindu" excludes, South Asian Muslims.) 5 in favor, 1 opposed. Not contemporary for Quigley because European invaders destroyed it 1700-1900. Whether South Asian Muslims are to be seen as inside or outside this civilization is not agreed; the status of Buddhism and Buddhists is also unclear.

d. "Islamic". 4 in favor, 2 opposed. Not contemporary for Quigley because Western intruders disrupted it in the first half of the twentieth century. Bagby sees this as only one portion, a recent epoch of a longer-lived and more diverse "Near-Eastern" civilization which includes Eastern Christian, Jewish and Zoroastrian elements and areas. While Arabic countries, Iran and Turkey are implicitly or explicitly included by writers recognizing a distinct Islamic civilization, South Asian Muslims are sometimes assigned to Indic civilization, Central Asian Muslims to Sinic civilization, and Southeast Asian Muslims to a civilization of that region.

e. "Japanese". 3 to 4 in favor. Not recognized as separate by Coulborn; peripheral to Chinese for Bagby. Doubtful for Quigley, as Japanese civilization "may" have been completely disrupted by Western intruders 1853-1950. Toynbee sometimes assigns Japan to a Far Eastern or Japanese-Korean civilization.

f. "Orthodox". 3 in favor of treating the Balkan Orthodox Christian and Russian Orthodox cultures as a single civilization. Coulborn accepts the union, but calls it "Byzantine", combining the Southeast European branch others call "Byzantine" with "Russian." Toynbee eventually rejects the union and perceives two civilizations; Bagby also rejects the union, but makes the Balkan section part of, and the Russian section peripheral to, Near Eastern.

g. "Russian". 2-3 in favor. Huntington and Quigley consolidate this with Byzantine in a larger "Orthodox," as does Coulborn in a larger "Byzantine". Bagby sees Russia as a civilization, though “peripheral” to Near Eastern civilization. Only Toynbee finally accepts its full separateness.

h. "Byzantine" (excluding “Russian”). 1-2 in favor. Huntington, Quigley and Coulborn combine Byzantine with Russian in a greater “Byzantine” or "Orthodox"; Bagby sees it as part of Near-Eastern civilization; Toynbee vacillates, but eventually accepts its individuality.

i. Entities with one sponsor: Toynbee names South-East Asian, Korean, Vietnamese, and "South-Western" (Pueblo); Huntington names Latin American and perhaps African.
So in addition to disagreements as to whether given civilizations are still alive or defunct, there is discord as to which are parts and which wholes. Christendom is always allotted at least two distinct civilizations, while other religions are allocated one at most. Some civilizations are defined on a religious criterion, some on a geographic-regional criterion, some on an ethnic-national criterion. Some civilizations are seen as independent by some analysts, but by other writers are held to be dependent upon other civilizations.

If these listings seem chaotic, and the principles on which they are based difficult to reconcile, that point has been made before, most definitively by P. Sorokin. In various publications (e.g. 1963), Sorokin contended that, while each Toynbeean "civilization" does seem to have contained some major social group (along with "alien groups"), these central social groups were not selected on the basis of any consistent principle. Rather the central groups are of different kinds in different "civilizations"—religious groups, language groups, state groups, and combinations of these. Thus each of the various civilizations is a "congeries" lacking coherence, and the set of these congeries is itself a congeries. Sorokin argued that Toynbee and his confreres had failed to find comparable meaningful-causal civilizational entities because they possessed no "clear, objective foundation" for identifying, numbering and classifying civilizations.

What is the source of the difficulties? Since the variable cultural acquisitions of individuals (e.g. spoken language, written language, writing type, religion, sect, nationality, state allegiance, ethnicity, dress, moral code, legal code, diet, etc. etc.) are very numerous, and quite differently bounded, all "homogeneous" cultures identified on one cultural criterion and located in space and time prove on some other equally worthy cultural criterion to be heterogeneous.

A further problem in applying a culturalist criterion is what may be called the henocentric perspective, which splits and subclassifies those culturally-defined civilizations nearest the classifier, whilst those farthest away (geographically or culturally) are coagulated into incoherent lumps. An extreme version of a henocentric perspective upon the world is best and most famously illustrated and burlesqued in the great Saul Steinberg "New Yorker Poster" of March 29, 1976, which shows the "mental geography" of the world seen from a Manhattanite mind: Manhattan's 9th Avenue is clearly distinguishable from, and distinct from, Manhattan's 10th Avenue, while China, Japan and Russia merge into a rather featureless and homogeneous blob on the horizon. The propensity of European civilizationalists of the past to distinguish numerous civilizations in Western Eurasian space and time (e.g. Hellenic, Syriac, Byzantine/Orthodox, Russian, Islamic, Western, etc.) while merging China, Korea, Tibet, Vietnam, sometimes even Japan, into a single "East Asian" or "Far Eastern" civilization, is a noteworthy illustration of the henocentric perspective's tendency to make fine distinctions in what is nearest to the observer, while aggregating what is farther away.

If we accept that whatever "civilizations" we distinguish will invariably prove culturally heterogeneous in one way or another, and avoid the fallacy of the henocentric perspective, we need some objective criterion for defining and identifying civilizations that will neither yearn for a non-existent homogeneity, nor privilege what is nearest and dearest to ourselves. Such a criterion is available. If we see civilizations as collections of (culturally heterogeneous) cities and states organized as social networks, then geographic borders
between different civilizations can be drawn on the assumption that a civilization will be bound internally as a network of strong links—political, military, diplomatic and economic—among its cities and states, but only weakly linked (e.g. by trade, but not war, rule or alliance) to external cities and states. This is the "transactional definition" of a civilization, employing a criterion of internal connectedness and external isolation, to replace the will-o’-the-wisp of a "cultural definition." On a transactional, connected-network criterion, cities whose people are interacting intensely, significantly, continuously, thereby belong to the same civilization, even if their cultures are very dissimilar and their interactions frequently hostile.

To sum up: in defining and bounding "civilizations," it seems that we must choose between a criterion of cultural homogeneity and one of historical autonomy, since all the collections of cities which followed their own particular historical trajectories were culturally heterogeneous. But attempts to apply the criterion of cultural homogeneity have produced only confusion. There is a viable alternative: to define civilizations as strongly linked sets of cities and states; as urban polycultures.

Bibliography

What is “a Civilization”?

a. Culturalist Civilization Criteria and Rosters


Melko M. (1969). The Nature of Civilizations. Boston: Porter Sargent. [Finds "reasonable agreement" among (culturalist) civilizationalists on the cultural distinctiveness of twelve civilizations, five living (Chinese, Japanese, Indian, Islamic, Western) and seven dead (Mesopotamian, Egyptian, Cretan, Classical, Byzantine, Middle American, Andean).]

Classical, Western, Orthodox, Mesoamerican, Andean). Only Orthodox and Western survive definitely, Japanese possibly survives; all others were terminated by outside invaders.

Spengler O. (1926-28). The Decline of the West. Trans. Charles Francis Atkinson. 2 vols. New York: Knopf. [Of eight civilizations (Chinese, Indian, Babylonian, Egyptian, Classical, Mexican, Western and Magian, i.e. Middle Eastern), two survive (Western and Magian).]


Toynbee A. J. (1961). Reconsiderations. Vol. XII of A Study of History. Oxford University Press. [The last volume of A Study of History, with a slightly different civilizational roster: ten surviving "full-blown" civilizations, five "independent" (Sinic, Indic, Orthodox Christian, Western, Islamic) and five "satellite" (Russian, South-East Asian, Japanese, Vietnamese, "South-Western"); two surviving "abortive" or "eclipsed" civilizations, Nestorian and Monophysite. Behind these, fourteen extinct "full-blown" civilizations, eight "independent" (Middle American, Andean, Sumero-Akkadian, Egyptian, Indus, Syrian, Hellenic) and six "satellite" (Mississippian, North Andean, South Andean, Hittite, Iranian, Tibetan, Korean); plus four "abortive," First Syriac, Far Western Christian, Scandinavian, "Medieval Western City-State Cosmos".]

b. Critiques of, and Alternatives to, the Culturalist Rosters


Wilkinson D. (1987). "Central Civilization" 17, Comparative Civilizations Review, Fall 1987, pp. 31-59. [Assertion of the transactional perspective on civilizations, and account of the discerning of a single "Central" civilization, relative to which many of the cultural perspective's "civilizations" are assigned regions and phases.]

Wilkinson D. (1996). "Sorokin versus Toynbee on Civilization." Pp. 141-158 in Joseph B. Ford, Michel P. Richard, and Palmer C. Talbut, eds., Sorokin and Civilization: A Centennial Assessment. New Brunswick, NJ: Transaction Publishers. [Pitirim Sorokin showed the failure of cultural-criterion civilizationists to agree whether their entities were wholes, parts or phases and their insistence on dividing or combining one another's units. Focusing specifically on Toynbee, Sorokin asserted that his attempt to find distinct cultures had instead imposed false unity on incoherent, inconsistent cultural "congeries".]

Durant, W. and A. (1935-1975) The Story of Civilization. 11 vols. 1. Our Oriental Heritage. 2. The Life of Greece. 3. Caesar and Christ. 4. The Age of Faith. 5. The Renaissance. 6. The Reformation. 7. The Age of Reason Begins. 8. The Age of Louis XIV. 9. The Age of Voltaire. 10. Rousseau & Revolution. 11. The Age of Napoleon. New York: Simon and Schuster. [Mostly the story of the West, its roots, rivals and rise, described in more than 10,000 pages and eleven volumes by philosopher-populists, and synthesized as The Lessons of History in a separate, unnumbered volume (1968). The attitude is optimistic and progressive; the emphasis is upon the individual minds and ideas that have contributed to moral and material progress. The writing is lucid, the level of information prodigious. Though badly in need of a new edition to carry it forward from 1815, to incorporate New World and sub-Saharan materials, and to expand its non-West-European portions, and though Eurocentric despite a conscious, deliberate and conscientious effort to defeat precisely that "provincialism," this encyclopedic work remains as yet an unexcelled attempt to interrelate the stories of Mesopotamian, Egyptian, Persian, Indian, Chinese, Japanese, Greek, Cretan, Roman, Christian, Judaic, Islamic, Russian, Italian, German, French and English cultures, philosophies, religions, arts, music, daily lives, wars, politics, and notable individuals].
The Unification Process

What was the Advantage of Central Civilization? And of its “West”? 

Hanson V.D. (2001). Carnage and Culture: Landmark Battles in the Rise to Western Power New York: Doubleday. [The rise of the West is owed to the war-related aspects of its culture. The battles examined include: Salamis, 480 BC, Greek allies vs. Persian empire; Gaugamela, 331 BC, Macedonians and Greeks vs. Persian empire, 331 BC; Cannae, 216 BC, Romans vs. Carthaginians; Poitiers, AD 732, Franks vs. Muslims; Tenochtitlan, AD 1520, Spaniards vs. Aztecs; Lepanto, AD 1571, Christian vs. Ottoman navies; Rorke's Drift, AD 1879, British vs. Zulus; Midway, AD 1942, Americans vs. Japanese; and Tet, AD 1968, USA vs. Vietnamese.]


Was the Actual Course of the Globalization of Civilization Inevitable? 
Gibbon E. The Decline and Fall of the Roman Empire, 1776-1778. Chapter LII. [What if Charles Martel had not won the battle of Poitiers/Tours?]

Livy. History of Rome, c. AD 17, 9.17-9.19. [What if Alexander had invaded Italy and attacked Rome?] 

Robinson K.S. (2002). Years of Rice and Salt. New York: Bantam. [Uchronia in which the Black Plague kills 99% rather than c. 35% of Europe’s population, and the globalization of civilization is carried out by Islam and Buddhist China.]

Toynbee A.J. (1934-1961). A Study of History. Vol. 2 of 12 vols. Oxford University Press, 1934-61, Annexes IV, VI, VII and VIII. [These sections on “Forfeited Birthrights” and “Lost Opportunities” sketch scenarios of different outcomes of battles and debates, and different timings of policy decisions, which might have worked to the great historical advantage respectively of Celtic Christianity, the Scandinavians, the "Osmanli Turks, or Nestorian Christianity.]

The Dialogues of Civilizations

a. Civilization Dialogues (except those before Akbar) 


©Encyclopedia of Life Support Systems (EOLSS)
b. Civilization Debates before the Mughal Emperor Akbar

The material on the Akbar debates is remarkably rich, and these debates would repay much closer and more systematic study.


Challenges for a Global Civilization

Chew S. (2001). World Ecological Degradation: Accumulation, Urbanization, and Deforestation 3000 B.C.—A.D. 2000. Walnut Creek, CA: Altamira. [Deforestation, a good measure of ecological degradation, and its associates erosion, salination and pollution, are coterminous with human civilization, driven by population growth, intensive capital accumulation, urbanization, and ordinarily produce resource overuse, ecological disaster and social decline. The relationship is a historical constant, to be found in the histories of Mesopotamia and Indian (Harappan period) civilizations c. 3000-1700 BC, Aegean civilization (Crete}
and Mycenae) c. 2000-1000 BC, classical Athens, the Roman empire, Southeast Asia, and Europe from Dark Ages to modernity. Resource overuse continues.]

Chew S. (2006). The Recurring Dark Ages: Ecological Stress, Climate Changes, and System Transformation. Walnut Creek, CA: Altamira. [5000 years of interactions of humans and environments, of nature and culture, have yielded Dark Ages: periods in which human communities undergo devolution, socioeconomic and political decay and retrogression, but in which at the same time, and just because of this decay, the landscape restores itself and invites a new human social evolution. Future Dark Ages, stemming from contemporary ecological scarcity and climate change, are to be expected and prepared against, but seem as opportunities for social and cultural innovation.]

Diamond J. (2005). Collapse: How Societies Choose to Fail or Succeed. New York: Viking. [Research into long-term collapses of societies (Easter Island, Chaco Canyon, Norse Greenland), including a civilization (Mayan), which indulged in excesses of populating, developing, and devastating, and left abandoned ruins as their contribution to excess and collapse in social history, and to our knowledge of same.]

Fagan B. (2004). The Long Summer: How Climate Changed Civilization. New York: Basic. A study of the climatic adaptation and vulnerability of civilization from a climatological perspective. In the geologic timescale, the present is the Holocene epoch, a 15 000-year warming period that has seen the withdrawal of the glaciers of the preceding Pleistocene epoch, and the development and globalization of civilizations by a humanity evolved in that previous Ice Age. The Holocene warming permitted such a response; and within the Holocene, there have been many episodes of somewhat less dramatic climatic shifts, some gradual, others abrupt. Each has evoked some response, sometimes creative, sometimes successful; but not always. The retreating Laurentide ice sheet produces the great meltwater Lake Agassiz in North America, whose freshwater flood overrides the warm Gulf Stream; a millennium of cold drought afflicts the Near East: game and nut trees die off; hunter-gatherers promote an auxiliary technique and become committed planter-cultivators. The Sahara becomes hot and dry, pushing its cattle-herders into the Nile-Valley, anchored to its more reliable waters, and build a society based on their own ideas of divine kingship. In the global civilization's future, since temperatures continue to rise, partly driven by human economic development, further challenges are to be expected: droughts will depopulate marginal agricultural zones; floods will depopulate heavily settled coastal plains and cities.]

Hillel D. (1991). Out of the Earth: Civilization and the Life of the Soil. New York: Free Press. [Basic work on civilizational edaphology discusses the use, abuse and destruction of soils, and shows the trajectory from soil abuse to social failure. 'In many of the older countries, where human exploitation of the land began early in history, we find shocking examples of once-thriving regions reduced to desolation by man-induced soil degradation.' The use and abuse of soil (and water) in Mesopotamia, the Indus Valley, Egypt, Mesoamerica, China, Australia, the United States and the world are considered in comparative and cumulative perspective, and the "disastrous failures of past societies" which destroyed their own underpinnings juxtaposed to present parallel processes on a larger scale. On the other hand, some long-lived arid-region and wetland soil management systems in the Near East, Egypt, the Americas and China provide examples of how to survive and thrive.]

McNeill W.H. (1976) Plagues and Peoples. Garden City, NY: Anchor Press. [The historical impact of endemic and epidemic diseases upon cultures and populations. Human colonization beyond the African tropical forest movement escapes its endemic diseases; human concentration through agriculture offers opportunities to new microparasites. Contacts between peoples across disease boundaries, allowing the endemic diseases of one population easier access to new populations without immunity have been important historic invitations to epidemics, and new contacts between civilizations, as via the Mongols in Eurasia or the Spanish in Mesoamerica, have had epidemic consequences of civilizational scale. Certain human institutions—extractive elites and their taxes, rents, labor controls, bandits, wars, deportations—appear capable of functioning as endemic or epidemic "macroparasites," with a record of limiting population or promoting depopulation. The global human population, effectively in extensive contact across the earth surface, forming one single disease pool by the end of the nineteenth century, has "domesticated" or rendered endemic and familiar many diseases, to which only young children lack some previous exposure and immunity. That same population, increasing in numbers yet contained spatially,
provides with its increasing density many new opportunities for epidemics based on mutations or interspecies leaps. And the populous and productive civilization which can sustain unprecedented degrees of specialization and unprecedented numbers of specialists has permitted a deliberate collective attempt to come to terms with its microparasites, as through quarantine and inoculation.]


Tainter J.A. (1990). *The Collapse of Complex Societies*. Cambridge University Press. [Development and test of a marginal-return theory of collapse. From two dozen cases of political collapse—Western Chou empire, Harappan civilization, Mesopotamia, Egyptian Old Kingdom, Hittite empire, Minoan civilization, Mycenaeae civilization, the Western Roman empire, the Olmec, the lowland classic Maya, the Mesoamerican highlands, Casas Grandes, the Chacoans (of Chaco Canyon, New Mexico), the Hohokam (of south central Arizona), the Eastern Woodlands, the Huari and Tiahuanaco empires, the Kachin and the Ik—Tainter develops a general theory of social collapse. He then examines three further cases of collapse (Western Roman, classic Mayan, Chacoan) in detail and in light of the theory.]


Biographical Sketch

**David Wilkinson** (A.B. Harvard 1960, Ph. D. Columbia 1965) is Professor of Political Science at the University of California, Los Angeles (UCLA), and the author of several books, as well as of numerous articles on the long-term development of civilizations.