Science and Civilizational Study: A Sand-Clearing Procedure

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The Walrus and the Carpenter
Were walking close at hand;
They wept like anything to see
Such quantities of sand:
"If this were only cleared away,"
They said, "it would be grand!"

"If seven maids with seven mops
Swept it for half a year.
Do you suppose," the Walrus said,
"That they could get it clear?"

Lewis Carroll, "The Walrus and the Carpenter"

This paper aims to contribute to the development of a procedure for the location, bounding, enumerating and studying of civilizations that will suit the needs of the "scientific" or scientistic approach to civilizations, a procedure evidently sorely needed and thus far absent or very imperfect.

Any comparative study of civilizations requires an inventory of the entities to be compared, preferably a comprehensive inventory. Many such have been attempted, e.g. those by Bagby 1958, Coulborn 1959, Huntington 1996, Melko 1969, Quigley 1961, Spengler 1926-1928, Toynbee 1934-1961 and 1961; others have been documented by Wescott 1970. They partly overlap and largely contradict one another (Wilkinson, 2007).

At annual meetings of the International Society for the Comparative Study of Civilizations, resort has been had to a "democratization of reification": votes have been cast and candidate civilizations nominated, campaigned for and against, elected or rejected, on no evidently consistent principle.

No substantive consensus has been reached; the sand has not been cleared away. To "get it clear," do we need more maids (more civilizationists)? More time (evidently far more than "half a year"; another century or two)?
Or perhaps we need no consensus, no clearing away of the sands. A purely humanistic study of civilizations will welcome competing criteria for, definitions of, and lists of civilizations, and expect rich insights from individual scholars, without insisting upon the cumulation of knowledge, nor upon finality of any sort.

But there is no reason why such tolerance of irreducible diversity cannot exist side by side with equal tolerance of a more ordered attempt toward scientism, i.e. toward the construction of a civilizational inventory upon explicit and consistent principles, on the expectation that different investigators will by using the same principles find the same inventory, whose members can then be scrutinized in a similarly methodical manner, in hopes of cumulative findings upon which consensus can be reached and further investigations founded.


One option is the development of a better “mop” for clearing the sands. This paper argues that a consistent roster of civilizations can be created by recognizing civilizations as tightly linked networks of cities, using the network boundaries as the spatial boundaries of the civilizations they embody (Wilkinson, 1987a). This implies the recognition that all civilizations will be polycultures (Iberall and Wilkinson, 1993), so that cultural criteria (e.g. religion, identity, language, tradition, etc., used most recently by Huntington, 1996, but quite routinely by others before him) cannot be used to bound or define a civilization, while single cultures (e.g. Islamic) can without difficulty be elements of many civilizations (e.g. Indic, Far Eastern, Southeast Asian).

The city-network criterion should also permit the avoidance of the henocentric perspective (Wilkinson 2007) that has tempted civilizationists to “split” civilizations nearer to them (especially West Eurasian/Christian) and “lump” those far away from them in space, time or consciousness.

This article proposes a specific and operationalized procedure for
locating civilizations as linked city networks (of minimum size=1) which is implicit in earlier articles on the same subject.

The objective: to take an inventory of the civilizations that exist or have existed in world history.

Procedure

1. First find a city, and, thereby, find a single civilization. Look anywhere on Earth for a city (of the order of magnitude 10,000 in total population). Let this be the key indicator of the existence, at that place and at that time, of a civilization.

   This step can be applied today, with instantaneous success, as the number of such cities is enormous. At earlier times, it becomes more and more challenging. Travel far enough backward in time, no civilizations will be found on earth.

2. Find the momentary spatial boundaries of the civilization. For the given moment, look for the state (polity) of which the initial city is a part (or, if a city-state, the entirety). For the same given moment, seek in the historical and/or archaeological records the empirical connections through space of the initial city and polity with others, attending primarily to the intense and durable politico-military-diplomatic connections: obedience, domination, alliance, negotiation, fighting.

3. Having found the other members of the local city-and-state network of the initial city, look for their connections to yet others. Repeat this process ad finitum. Whenever the links of the last set of cities and states with yet others become tenuous or nonexistent, or the network exhausts the habitable earth surface, consider that the spatial boundary of the civilization at that moment has been reached.

   Applied today, this procedure yields our singular global civilization. For reasons given elsewhere (1987), I have called the lone contemporary civilization “Central” civilization.

4. Find the spatio-temporal boundaries and dimensions of the civilization. Carry the aforementioned search for network linkages backward and forward in history, to find the changing size of the civilization’s area over time. Set the earliest temporal boundary of the civilization at the moment when its first city emerges. Set its final temporal boundary (if any) at the moment when its last city vanishes.

   If at the earliest time-boundary there appears a marginal case, a conglomeration of populations whose status as a “city” will be arguable (as, a steppe-nomad mobile “capital”; a large lineage-encampment that fissions when a shared father-king dies, and reconsolidates when a new
paramount chief arises; an ancient Irish tuath; a large monastery; a temple-town), the time-boundary will be a boundary zone.

5. If no such final moment exists, the civilization perdures to the present, unless, due to the expansion in space of this civilization or another, their networks collided and fused. In this event, if the initial civilization’s network and that of its neighbor merge on roughly equal terms, set the final bounds for both at the time of fusion, and consider that a new successor civilization then emerged. If the merger is noticeably unequal, consider that the larger civilization has absorbed the smaller.

Applying steps 4 and 5, today, no “forward search” is possible; Central civilization exists.

6. Working backward in time, a single “stream” may be found all the way to an origin. Or we may find a more intriguing pattern, similar to that found by working upstream from the mouth of a great world river, in which at various moments “tributary” streams break away and branch off and subdivide. (The streams “branch” as we look backward; if we go back behind the branch and look forward, they converge.)

At each branching point, if there is a noticeably larger branch, consider it the “mainstream” of the civilization, and follow it backward under the same name. Consider the smaller branch a separate civilization, give it a name of its own, and in due course follow it back in a similar manner.

Working backward in the history of Central civilization, I find branching in the late 19th-early 20th century of two large streams, and label them “Far Eastern” and “Japanese” civilizations. Earlier there appears an “Indic” branch, and behind that several other large and some small branches. A mainstream of Central civilization traces back, however, for thousands of years of cities: individual cities rise and fall, but the network of cities is a persistent entity (Wilkinson, 1987, 1992, 1993a).

7. If at a branch point neither branch is noticeably larger, consider the branching point to be the origin of the civilization in question, give each component a name of its own, and follow it back in the same manner. Comparably, in searching upstream on the Ohio River, its name “begins” at the confluence, and termination, of the Allegheny and the Monongahela rivers.

Central civilization originates about 1500 BC, in the confluence of what I, like others, have called the “Mesopotamian/Southwest Asian”
and "Egyptian/Northeast African" civilizations, of relatively equal weight.

8. For every civilization not the product of a confluence of near-equals, its origin is found when the backward/upstream search locates no city of the order of 10,000. Smaller towns will usually be found "upstream" of origin points/moments (Wilkinson 1992, 1993a, 1993b, 1994).

9. The above procedure should fairly readily locate that set of civilizations whose streams combined to lead to today's solitary global civilization. To complete a roster, however, civilizations which died rather than combined, i.e. whose cities shrank below 10,000 population, must also be located. This search for "lost civilizations" has been long and will be longer. The requisite comprehensive site-finding, mapping and digging have been arduous, and will become more so.

One civilization—Mississippian, city Cahokia—can safely be characterized as demonstrably "dead" rather than "merged." Central Asia, inland Africa, and inland South America are lively areas of investigation for the defunct. Areas now subaqueous but at one time on higher ground are also of great interest.

10. At any given moment in the investigation, the methods of detection available to the investigators may be judged to have found all the cases that can be found thereby. At this point, an inventory of members of the class of "civilizations" has been completed. It should be replicable by other investigators using the same criteria and data.

The inventory may change over time for the past, as more data on city sizes are compiled and older data improved, or as "new" old cities are found by new methods and dug by archaeologists. The inventory may change over time for our future, as now-current civilizations disappear, or split, or colonize the stars with daughter-civilizations that go their own ways autonomously. But this is a standard form of within-paradigm scientific change: biological species are discovered or reclassified, go extinct or split off. Paradigm shifts that drastically change the bases of the inventory of civilizations may also occur, but likely not until comparative-empirical study of the chosen set of civilizations begins to produce paradoxical, frustrating, or incomprehensible results.

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Now speaking very optimistically: short of a paradigmatic crisis, a comparative-empirical scientific study of an inventory of civilizations could proceed to a finish, perhaps as follows:
11. Choose some significant variable, changes in whose values will be assessed over time. Civilizational variables that have been thought interesting have included creativity, population, rate of expansion of area, economic production, wealth, magnificence, rate of technological changes, incidence and dimensions of warfare, liberty, epidemics, climate changes, environmental effects (e.g., deforestations/reforestations), etc. My own current choice is the systemwide power structure of the civilization (1996, 1999, 2001, 2004a, 2004b, 2006).

12. Assess the chosen variable at feasible intervals over the lifespan of the civilization. Evaluate it for stability, trend, cyclicality, progressiveness, etc. (e.g., Wilkinson 2005).

13. When the trajectory of more than one such variable has been measured for a given civilization, look for correlations in the behavior of the measured variables, and, if any are found, consider alternative explanations (including “coincidence”).

14. When the trajectory of more than one civilization has been measured for a given variable, compare trajectories for synchronicities, opposing phases, delayed correlations, diffusive effects, similar or contrasting patterns. Seek explanations for patterns when found, whether shared or idiosyncratic.

15. When, if and as all variables are satisfactorily explained for all the histories of all civilizations—find another subject!

But keep in mind that the search for finality is not guaranteed to reach any *terminus ad quem*:

“If seven maids with seven mops
Swept it for half a year.
Do you suppose,” the Walrus said,
“That they could get it clear?”
“I doubt it,” said the Carpenter,
And shed a bitter tear.

**Bibliography**


