

Commentary

Globalization and Anthropology: Expanding the Options

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Key words: globalization, objectivism, constructivism, sustainability, epistemology, indigenous knowledge, agriculture

The concept of “globalization” is spreading throughout anthropological discourse as it is in academic and policy discourses everywhere. Hackenberg’s (1999) suggestion that globalization would be a good “touchstone policy concept” for anthropology in the new millennium is, therefore, a good one. The concept seems critical for understanding the human situation in the 21st century from many different perspectives—from climate change to AIDS and from the loss of cultural and biological diversity to the increasing complexity of electronic information networks.

I wish to suggest an expansion of the definitions of globalization, of applied anthropology, and of the range of possible responses to the problems of globalization, including ones that exploit some of its features.

Defining Globalization

Globalization is a result of biophysical as well as geopolitical processes. If we fail to try to contextualize globalization in the broad sweep of human history and the diversity of human-environment relations, we limit our potential as anthropologists to address the problems of globalization, making it difficult to provide the kind of analysis needed by society. I suggest that rather than seeing our current era as an abrupt disjunct in human-environmental history, it is more accurate and more useful to see it as the latest phase of a process that began about 12,000-13,000 years ago with the origins of agriculture.

Agriculture radically changed the nature of humans’ interaction with the environment and with each other: we became involved in deliberately controlling the evolution of other species via domestication and subsequent selection and spread of domesticated plants and animals, and we began managing ecosystems to support these domesticates (especially the plants). Agriculture was a key factor in the rise of cities and of systems of hegemonic political control, and in a dramatic increase in population growth rates. Cohen (1995) estimates that annual rates of population growth were be-

tween 13 and 221 times greater in the Neolithic (12,000-2,000 BP) than in the gathering/hunting period that preceded it. The next larger increase in rates was during the industrial revolution, when they increased to a level 23 to 42 times greater than the Neolithic. The direction of causality at any given time between population growth and the development of agriculture, including industrial and scientific agriculture, is complex and disputed, but it would be impossible for the human population to have grown at these rates over these time periods without agriculture.

Today human population size is entering a “zone” that includes the majority of most estimates of the earth’s human carrying capacity (Cohen 1995). The term “human-dominated ecosystems,” until recently applied to local systems, now “applies with greater or lesser force to all of Earth” (Vitousek et al. 1997:494). When population growth and various measures of human impact on the environment are plotted against time, the curve looks exponential (or even superexponential), and this kind of growth can be very surprising. Given the current size of physical human impacts, doublings result in very large absolute numbers that give the impression of something coming out of nowhere. Recall the well-known story of the single lily pad on the pond that doubles the number of pads every day for 28 days but still only covers 25 percent of the pond—50 percent is covered the next day, and the whole pond is covered on day 30. If, in terms of the absolute size of human impact on the planet, we are, analogously, at day 27 or more, the absolute size of human impact on the environment, and of dominant cultures on minority cultures, is unprecedented. This may help explain why so much anthropological discourse on globalization seems to assume it is the forces of modernity or late modernity that are uniquely responsible for the problems caused by globalization. While it may be true that many of the current forms of globalization are quantitatively and even qualitatively unprecedented, this does not mean the processes underlying this impact are unprecedented.

Archeological research can shed light on causal relations in cycles of political hegemony and environmental crisis, and

the possibilities for social development and sustainable environmental management. Clearly, there is much to learn, and a simplistic contrast between sustainable indigenous and unsustainable industrial agriculture is unfounded. Large-scale, centrally controlled indigenous societies, such as those of antiquity, may severely limit local farmer management and other agricultural diversity in an attempt to control large, locally dense populations and bolster the power of a small elite, potentially leading to the destruction of the resource base and the collapse of production (Adams 1978). Yet farmers may have the ability to maintain production by adapting technology over the long term, despite fluctuations in central state control and environmental "disasters" (Erickson 1999). Only careful, detailed analysis will shed light on the basis for similarities and differences between different situations. For example, data from the Colca Valley of Peru suggest that the productivity of soils in agricultural terraces has been maintained by farmers for 15 centuries, while in the Mimbres area of New Mexico, soils cultivated between 3,000 and 3,500 years ago "remain partly degraded (accelerated erosion, compaction, decreased organic matter and nutrient levels) over eight centuries after agriculture ended, perhaps due to sensitivity of this area to disturbance" (Sandor and Eash, 1991:36). It is also becoming clearer that applying archeological evidence to an understanding of globalization will require a re-examination of the essentialisms that characterized much previous ethnographic and archeological research, resulting, for example, in the unjustified conclusion that the rise of states is synonymous with the decline in women's political power (Pyburn n.d.).

Defining (Applied) Anthropology

Applied anthropology should be defined broadly to include both humanistic and scientific approaches. If applied anthropology is defined narrowly at the "objectivist" end of the epistemological spectrum, it will not be adequate for analyzing and responding to globalization. We should not continue to reify, and set against each other, essentialist definitions of anthropology: constructivist versus objectivist, interpretivist versus scientific.

There are surely "postmodern excesses" as Hackenberg (1999:213) notes, and it is regrettable that what appears to be a dominant voice in anthropology promotes an ideological view of globalization as a phenomenon of late modernism/capitalism. However, there are also plenty of "objectivist excesses," and a study of human history and environmental relations that does not include the role of unequal power relationships in constructing what is considered "truth," or the motivating force of individuals' subjective knowledge, is severely handicapped. As Gould (2000) says, puncturing the objectivist myth is critical to advancing objective knowledge.

Clark's (1999:2031-2032) observation about studies of modern human origins could apply to much of objectivist-oriented social science as well: it may appear "on the surface" to be "a sophisticated interdisciplinary research in which

data are absorbed and digested, arguments assimilated, and methodologies understood, compared and evaluated". However, this is:

a gross simplification of a much more complex reality. We are, in effect consumers of one another's research conclusions, but we select among alternative sets...in accordance with our biases and preconceptions. These biases and preconceptions must be subjected to critical scrutiny. As long as there is no explicit concern with the logic of inference—how we know what we think we know—there can be no consensus (Clark 1999:2031-2032).

In other words, understanding the social and cultural basis for the construction of knowledge is just as important as understanding the biophysical basis of that knowledge in the world outside of the mind.

The great strength of anthropology, including applied anthropology, lies in its potential to lead the way in bringing together humanistic and scientific approaches for understanding humans; and in relationship to the planet they live on, in integrative research, action and policy making (Cleveland 1998). Our goal should be to create a nonideological middle ground that values both constructivist *and* objectivist viewpoints. While far from new, this "third" path seems to be gaining broader support in social studies of science (Bourdieu 2000; Harding 1998; Hull 1988), anthropology (Ellen 1996; Schweizer 1998), ethnobiology (Medin and Atran 1999), and natural sciences (Gould 2000). It sees scientific *and* local knowledges as both constructed by epistemological processes influenced by social and historical processes which affect, for example, values and technologies. On the other hand, it also sees scientific *and* local knowledge as a reflection of both the universal patterns and the local and individual variations of biophysical reality and of human cognition. The result is a complex "knowledge" that requires empirical investigation to understand its origins and roles in any particular case.

If applied anthropology is to contribute to understanding and solving the problems of globalization, then it will need to bring its humanistic and scientific resources together in facilitating social agreement about how to proceed. We need to be more careful in research and discussion to separate as clearly as possible objective knowledge about what "is" (biophysical and social reality) and metaphysical knowledge about what "should be" (values, goals). The failure to separate these concepts results in time wasted while the problems of globalization worsen. A similar problem seems to have characterized much "political ecology" research (Vayda and Walters 1999).

Much of the discussion of responses to globalization revolve around the concept of environmental, social, and economic sustainability (Goodland 1995), which is often used as if it were objectively definable. But "sustainability" and its components such as environmental "conservation," social "equity," and economic "rationality" are all statements of goals—subjective and teleological concepts. This means

they are dependent on values, because it is impossible to objectively define not only their key components but also the spatial and temporal boundaries of the system, or which components of the system should be given priority (cf. Thompson 1995).

It is only when goals are *subjectively* defined, either arbitrarily by an individual or group, or interactively through social negotiation between individuals and groups with different values, that one can begin to *objectively* measure with *empirical* data the extent to which a certain process or structure conserves natural resources, promotes social equity, or is economically rational. For example, resolution of conflicting claims to rights in natural resources are stymied by failure to differentiate between objective and subjective knowledge (Cleveland and Murray 1997). Anthropologists seem to frequently confuse indigenous people's rights to natural resources with their management of those resources. But whether indigenous people conserve or destroy resources, and for what reasons, is an empirical question. Whether they have rights to those resources is a metaphysical question that may (if rights are considered contingent) or may not (if rights are considered inherent) hinge on answers to the first question.

Response to Globalization

A broader definition of globalization and of applied anthropology implies a broader range of responses, which takes advantage of some of the positive aspects of globalization. While what many of us agree are negative aspects of globalization (including the growth in inequity between rich and poor) demand the attention of anthropologists, so too do the opportunities for countering these negative aspects by taking advantage of globalization. In fact, in some cases addressing the problems globalism has created may require taking advantage of global systems, as, for example, with human health (McMichael et al. 1999).

Small-scale farmers whose way of life has been drastically affected by globalization, opportunistically make use of the possibilities offered by globalization to improve their situation (Cleveland 1998). They must craft "hybrid technologies" to adapt to changing circumstances (Wilk 1996), or they will no longer be able to remain farmers. Indigenous groups may define "indigenous agriculture" to include industrial agriculture technologies such as fertilizers or tractors, in part because it serves their larger goal of maintaining their physical and cultural identity (see Bebbington 1993). Zuni farmers have learned how to use global positioning system (GPS) technology to map their family farm fields, and this has become a powerful force in resolving land disputes that have impeded the revitalization of indigenous agriculture (Cleveland et al. 1995). Biological scientists have also supported "the development of more ecologically designed agricultural systems that reintegrate features of traditional agricultural knowledge and add new ecological knowledge" (Matson et al. 1997:508).

Because population growth and environmental degradation seem to have increased dramatically in the last few centuries, and as productive resources become scarcer and more contested, attention has focused on the potential value of local knowledge and local systems of resource use and conservation as alternatives to modern, industrial systems. Nader (1996:6-7), for example, writes that "globalization renders the search for a more balanced, indeed more scientific, treatment of disparate knowledge systems inevitable." One of the greatest challenges will be developing the required levels of communication that will need to be "broad and deep beyond precedent," but which will need to take advantage of global communication networks (Ostrom et al. 1999:282).

Interest in such efforts has increased dramatically in recent years, especially since the Convention on Biological Diversity (CBD) in 1992. Questions about the comparative environmental sustainability of modern and traditional agriculture, of the degree of similarity between scientists' and farmers' knowledge, and the potential for collaboration between farmers and scientists, are, therefore, at the center of the debate about more sustainable alternatives to conventional modern agriculture (Diversity 1998; Sillitoe 1998). Unfortunately, many anthropologists see farmers and scientists as fundamentally different, their knowledges incompatible (Scott 1998).

The degree of similarity or difference between local and scientific knowledge and practice needs to be empirically examined. A likely benefit of a synthesis of local and global is an increase in epistemological range that modern technologies and scientific theories afford to local farmers, and that local farmers' holistic and intimate knowledge of plants and environments affords to scientists. Anthropology could lead us to research, action, and policy to support collaboration between modern scientific and local knowledges to address the problems of globalization.

An example of this is collaborative or participatory plant breeding (Cleveland et al. 2000; Soleri et al. 2000). It's potential is to take advantage of both scientific plant breeding's global access to crop genetic resources and its theoretical and technical ability to use them, and local farmers' theoretical and empirical knowledge of complex crop ecologies, to develop new varieties that better serve farmers' needs.

Conclusion

A broader definition of globalization that includes both geopolitical and biophysical components, and looks for the origins of modern trends through the historical depths of human-environment relationships, is essential because complex interaction of these components underlies globalization. A broader definition of anthropology (including applied anthropology) that includes both humanistic and scientific approaches allows a uniquely integrated approach to understanding the complex phenomenon of globalization. In turn, expanded definitions of globalization and anthropology enable an expanded range of responses to the problems of globalization—

one which can take advantage of some aspects of globalization to counter its negative aspects.

Given the immense and unprecedented problems globalization seems to have in store for the 21st century, we have to ask ourselves some critical questions. Is there a way to carry out research to inform discussion of the human condition that can avoid engagement with the concept and effects of globalization? How can anthropology take advantage of its broad theoretical and empirical resources to carry out this research? Is it possible to be an anthropologist in the 21st century without actively or passively offering suggestions about how to deal with the problems and promises of globalization? Can anthropology in the 21st century be any thing *except* applied anthropology?

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