Vectors of Death

The Archaeology of European Contact

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One

The Population Debate in Perspective

For nearly a century, ethnologists, ethnohistorians, and demographic historians have carried on a lively debate that centers on the size of Native American population immediately prior to European contact. Three issues are at the heart of the debate: (1) precontact population size and magnitude of postcontact decline; (2) timing of the decline relative to the earliest census counts; (3) role of infectious disease in that decline.

Ethnologists of the American Historical School (Helm 1965, 1980; Kroeber 1934, 1939; Steward 1949) generally take a conservative position on these issues. They do not accord disease a major role in the early postcontact period, but date the recognized onset of aboriginal decline subsequent to historical documentation and sustained European settlement. Because the earliest census counts do not necessarily represent grossly reduced populations, they can provide indices for estimating population size during the late precontact period. Employing such counts typically results in a small aboriginal population base for A.D. 1492.

Ethnohistorians, typified by Dobyns (1966, 1981, 1983) and Krech (1978, 1983) and historical demographers, such as S. F. Cook (1976) and W. Borah (1976), envision an entirely different sequence of events during the contact period. They assume infectious diseases, a major cause in the destruction of aboriginal populations, reached regional groups decades, if not centuries, prior to historical documentation. Consequently, even the earliest census counts may describe populations as much as 95% reduced from precontact maxima; precontact estimates must then be orders of magnitude larger than postcontact counts. Given contrasts between positions, it is no wonder that for A.D. 1492, suggested totals for aboriginal North America range from 0.9 million (Kroeber 1939) to 18 million (Dobyns 1983).

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Differences between estimates are, in part, explained by a series of historical factors. Ethnologists of the American Historical School focused on reconstructing native cultures prior to the arrival of Europeans. This focus initially grew out of a strong commitment to salvage the past and the belief that, although not racially inferior, native populations had not changed greatly throughout their development (Stocking 1976; Trigger 1981a, 1984). This school of thought believed that major changes including the introduction of disease occurred following European documentation and settlement and were of less concern. As Kroeber states:

> After some hesitation I have omitted . . . accounts of the relations of the natives with the Whites and events befalling them after such contact was established. It is not that this subject is unimportant, or uninteresting, but that I am not in a position to treat it adequately. It also is a matter that has comparatively slight relation to the original condition. . . . I might better contribute to the future writing of such a history by concentrating effort in the field to which my training and predilection has led me. . . . I have, therefore, considered contact only in special cases; as when necessary to form an estimate of an ancient vanished culture through the medium of its modern and modified representative (1925:VI).

Ethnologists employed informant memory, individual traits, and historical documents to recreate the past from the modified present. The static reconstruction set at the beginning of regional contact with Europeans became known as the ethnographic present.

The development of regional archaeological chronologies, acculturation studies, Native American land claim cases, and ethnohistory began to change the perspective on the American Indian. Chronological work on the archaeological record of North America began in earnest in the 1930s (Trigger 1984; Willey and Sabloff 1980). As studies accumulated, it became apparent that change, rather than stability, dominated the record. Acculturation studies that began during or shortly after World War II (Herskovits 1958; Malinowski 1945; Tax 1952) focused on gradual accommodations of Native American societies to European culture. Like archaeological investigations, these studies demonstrated that native populations and systems experienced considerable disruption. (See for example, Spicer 1961, 1962.) The study of ethnohistory developed with American Indian land claims and reinforced the impression of change.

The consequence of all this research resulted in a reevaluation of the ethnographic present. In 1955, Steward argued that ethnographic descriptions of Native Americans were not "primary data" and should not be construed to represent pristine populations or systems. More recently still, Dobyns writes that the ethnographic present

> may be termed "divorced from reality." No such cultural phase existed; ethnographies written in the ethnographic present are like paintings of extinct birds based on hearsay and on the artist's imagination. The methods and techniques traditionally employed by ethnographers are not capable of recovering from a very small handful of survivors an accurate portrait of societies that have not functioned for decades—and in many instances centuries—prior to the arrival of the ethnographer (1983:26).

Despite the growing recognition of discontinuity in aboriginal populations and systems through the contact period, the position advanced primarily by Kroeber continues into the present (see for example, Fenton 1985; Helm 1965, 1980). Consequently, ethnologists and ethnohistorians continue to debate problems of timing, magnitude, and cause(s) of aboriginal population change during the early contact period. Moreover, because scholars are using the same type of data to reach contradictory conclusions, the debate cannot be resolved solely within the field of ethnology.

As Borah (1976) and others (Dobyns 1983; Heizer 1941; Trigger 1985) have noted, archaeologists could make significant contributions to the question of population change during the contact period. The record is temporal and incorporates data on population size or density. Nonetheless, archaeologists, with few exceptions (Heizer 1941; Perttula 1984; Ramenofsky 1982; Smith 1984; Snow and Starna 1984; Trigger 1985; Upham 1982), have not entered this field of research. The reason for this oversight seems to lie in the current goals and methods of demographic archaeology.

Even though the archaeological record of population is not comparable to historic period census counts, a major goal of demographic archaeology is to develop absolute counts of people (Hassan 1981). To derive such estimates archaeologically requires the use of some sort of modern standard or analogue. More often than not, these analogues, taken from historical or ethnographic counts of population, are drawn from the low end of the population scale. Low estimates fail to consider questions of early disease introduction and resulting decline of population. Consequently, archaeologists who employ these estimates as analogues are accepting the position of demographic continuity throughout the period of European contact.

Thus, while ethnologists and ethnohistorians are debating an issue to which archaeologists could make genuine contributions, the archaeological goal of developing absolute estimates of population has limited that contribution. This situation is all the more ironic since, as noted by several archaeologists (Dunnell 1980; Leone 1972), American archaeologists have always been consumers of ethnological ideas and models. In the field of Native American demography, archaeologists have largely accepted the conservative stance and have not considered the alternative approach.

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This work approaches the population debate from an archaeological perspective. Because the archaeological record is not isomorphic with the historical record, the scope of the study does not include many of the fine points of the ethnological debate. Nonetheless, it does address the following key questions: whether the decline postdated A.D. 1492 (but predated sustained European settlement and documentation at a regional scale), whether the decline was catastrophic in nature, and whether disease was causal in that decline.

This investigation necessitates that the archaeological record of population change be evaluated independently of historical or ethnographic records. Consequently, although archaeological and historical records are considered, they are treated as independent sets of data. While this approach precludes providing absolute estimates of people, it does not prevent an assessment of the validity of each side of the debate. Positions are so fundamentally different that relative or ordinal estimates of population change are sufficient for resolving these questions.

The pattern of archaeological change in population is developed through analysis of settlement, the archaeological variable most closely tied to population (Hassan 1981; Schacht 1981, 1984). If Kroeber's position is correct, then analyses of settlements should suggest a pattern of stability until the period of historic documentation. If, on the other hand, Dobyns's position is correct, patterns of settlement should show drastic changes commensurate with population loss prior to the beginning of written records.

Since the primary goal of this work is to build a pattern of population change through the contact period, settlement analyses must be regional in scope. Although it would be convenient to identify and trace changes in population size or density at a single site, such an approach is not appropriate. As suggested by twentieth-century census counts of native populations, some individuals have survived in almost all situations; thus, a local archaeological record could be at variance with the larger pattern. While learning something about continuity in population, this approach would not systematically consider the question of discontinuity.

Although this work addresses the role of disease, evidence for or against an early introduction is, at best, indirect. With very few exceptions (Jackes 1983), disease-causing micro-organisms are not preserved in the archaeological record. Thus, arguments for disease as causal in the decline hinge on the nature, rapidity, and timing of the loss. Under virgin soil conditions and in the absence of medical assistance, initial introductions of infectious parasites typically result in large-scale epidemics with mortality ranging from 30 to 100%. Catastrophes of this magnitude can completely alter the structure of population within one or two generations. If the loss is registered in the archaeological contact record and predates sustained European presence in the region, then disease is the only

reasonable explanation of the event. If loss follows sustained colonization, then other variables could be responsible.

The organization of this book follows from the archaeological questions. First, it presents the necessary background for understanding the population debate. Historical and archaeological goals and methods of estimating population are specifically emphasized. A description of the archaeological methods employed in this analysis follows. Because the timing and pattern of population change has implications for the causes of such change, documentation of three regional test cases precedes consideration of the cause of population change. In Chapter 4, archaeological patterns are built and compared. The following chapter is devoted to the question of acute infectious disease. In Chapter 6, the results of this study are summarized and the implications discussed.

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