

EDITOR'S FOREWORD

Archaeology has yet to benefit from the data methods and theories of demography. While demographers and other demographically inclined social scientists occasionally cite archaeological sources, archaeologists in the past have shied away from the demographic literature. This is not surprising; compared to the chronology and typology of artifacts, the demography of prehistoric populations must have seemed an esoteric, if not outright metaphysical, topic. Our primary data—skeletal populations—were quite appropriately passed on to physical anthropologists for analysis. But since we failed to ask demographic questions, the specialists provided few demographic answers. Instead, their answers reflected issues important to physical anthropology at the time, such as racial typology and evolutionary or pathological skeletal morphology. The demographers proper, on the other hand, were preoccupied with the vital statistics of modern nation states. Where they did take a look at demographic information from skeletal sources, it did not fit their models for industrial populations. Unable to determine whether this lack of fit was caused by the primitive nature of pre-industrial populations or by the primitive state of anthropological demography, they quickly lost interest in skeletal populations.

In explaining culture process, archaeologists have gradually traded in the simple cause and effect relationships, one-to-one analogies and straightforward inferences of the founding fathers for more and more complex networks of mutual causation. This trend has not only integrated archaeology more fully than ever before into anthropology and social science in general, but it has also greatly increased the area of mutual concern and potential cross-fertilization between archaeology and demography. One can safely predict that demography will assume a more important role in archaeology as we come to a better understanding of causation in the cultural realm.

Demographers may look down upon potential archaeological contributions to their field, but archaeologists cannot avoid the dialogue with demography as easily—for even the most trite archaeological data are structured at least in part by demographic factors and their derivatives. Thus, the age and sex structure of a population will be reflected, if only indirectly, in the number of points, the volume of pots, or the size of houses encountered by archaeologists. More complex archaeological parameters are more intricately structured demographically. For example, the mean length of occupation of residential structures not only derives from the mating pattern, the postmarital residence rules, and various other social and economic factors, but also from mortality (household abandonment) and fertility (rate of new household formation). The same may be said of the prevalence of special activity sites in a given area, such as sites produced by gatherers during a collecting trip or kill and butchering sites left behind by hunters. Their number is not only a function of the ecology of the area and of the exploitative system, but is also influenced by the sex ratio, the dependency ratio (the percentage of the population infirm, senile, or juvenile), and thus eventually again by mortality and fertility. Under limiting conditions, even the rules of mating and the size of the mating network are structured by the 3 stochastic variables sex ratio at birth, mortality, and fertility. Beyond this, several papers have recently pointed to the relationship between ritual and exchange and various demographic parameters. Already, demography abounds in explanations of major evolutionary transformations: whether it is the rise of states or the origin of food production, demography provides one of the links in the chain of causation. For all these reasons, archaeologists can no longer afford to work in a demographic vacuum, and should avail themselves of the strong medicine offered in this volume.

Kenneth Weiss provides the archaeologist with a capsule introduction to stable and stationary population theory, the backbone of modern national demography. While this body of theory applies to living and dead populations, the vital rates of modern nation states bear little resemblance to the sex and age structure of prehistoric populations or living primitive groups. The anthropological populations, on the other hand, are usually too small and too poorly recorded to allow

generalizations about their demographic characteristics. For this reason, Kenneth Weiss applies stationary population theory to develop a series of model life tables which includes the full range of mortality and fertility experiences extant in the anthropological literature. These populations have never before been integrated into such a comprehensive frame of reference, and never before have the parameters of primitive demography been derived so explicitly. The resulting life tables are a fertile digging ground for the archaeologist: they allow us to check archaeological demographic data for internal consistency and completeness; they can serve as input data for simulation models and the like; and they help to derive from published age-at-death data anthropologically relevant parameters such as generation length, dependency ratio, and family size. The anthropological reader should be particularly interested in the author's reevaluation of the history of human life expectancy and in his novel evolutionary treatment of population growth regulation. Since these are important parameters in the origins of sedentism, warfare, and even social stratification, this volume may bring about some revisions in models all too readily accepted at present. Finally, and more down to earth, the book provides advice on the aging and sexing of prehistoric and anthropological populations, outlines how to gather more reliable demographic data, and delineates the criteria for utilizing ethnographic and archaeological data demographically. Hopefully, the volume will disturb the quiet backwater of archaeological demography and catalyze a new dialogue between demographers and archaeologists.

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