Book Reviews

Settlement Pattern Archeology

Man, Settlement and Urbanism. Proceedings of a meeting, London, May 1970. PETER J. UCKO, RUTH TRINGHAM, and G. W. DIMBLEBY, Eds. Schenkman, Cambridge, Mass., 1972 (distributor, Warner Modular Systems, Andover, Mass.). xxviii, 980 pp., illus., + plates. $30.

This book is the result of a meeting of the Research Seminar in Archaeology and Related Fields. Over 100 specialists from several countries contributed papers. Most of the participants were archeologists (a substantial majority from institutions in Great Britain), but a number of ethnologists, human geographers, ethologists, city planners, and even legal authorities also took part. The central concern of the seminar was the interpretation and analysis of archeological settlement patterns, with emphasis on the phenomenon of urbanism and the process of urbanization. The papers range widely in orientation and content—the book includes, for example, brief methodological statements, lengthy reviews of data from large geographic areas, development of theoretical models, and substantive considerations of specific features or problems. There is a marked orientation toward European and Middle Eastern data and problems. Sub-Saharan Africa, eastern Asia, Oceania, and the New World receive considerably less attention. There are also a significant number of papers which deal with various problems of modern industrial urban systems.

The result is a very stimulating and often overwhelming array of data and ideas. In some ways this volume is comparable in scope and interest to *Prehistoric Settlement Patterns in the New World* (Viking Fund Publication in Anthropology No. 23), which proved so influential in American archeology a decade ago. A comparison of these two seminal volumes indicates something of how far settlement pattern archeology has progressed since the mid-1950's.

This work could be reviewed from several very different perspectives. Since the present reviewer is an archeologist interested mainly in problems of settlement patterns in preindustrial societies, this review will be oriented toward the consideration of several (but not all) themes which seem especially pertinent to this interest. The introductory paper by Ruth Tringham provides a good starting point. Tringham argues (quite correctly, I think) that European and American archeologists have generally meant different things by the term "settlement" and that this has produced some confusion. Europeans doing "settlement archeology" have traditionally been interested in describing and analyzing domestic remains in residential sites, as opposed to cemeteries, ceremonial loci, and the like. Traditionally there has been limited interest in carrying out research programs aimed at the description of regional settlement systems and analysis of processes of change in these systems through time which have characterized much of "American settlement pattern archeology" since the late 1940's. One very major contribution of this volume is to provide a meeting ground for the two traditions. This volume also makes it apparent that some European archeologists have been working actively within the "American" tradition.

Several aspects of the important problem of community size limitation in present-day egalitarian societies are developed and explored in papers by A. Forge, R. Lee, V. Reynolds, and J. Woodburn. These authors find that beyond the maximum size of a few hundred individuals, egalitarian societies (hunters and gatherers, Neolithic cultivators) fragment more because of inability to resolve intragroup conflicts than because of scarcity of resources. There is no direct application of these considerations to an archeological context, but one implication might be that the transition from egalitarian to more complex ranked societies in some situations may be marked at that point in the archeological record of a region where settlements of more than 300 to 400 inhabitants first appear (assuming, of course, that reasonable population estimates can be made for all sites in question, and that a "settlement" can be adequately identified).

Some important methodological issues are raised. For example. C. Taylor and Mary Douglas both ask to what extent material remains can, in the absence of any written documentation, be interpreted as reflections of social organization. Both conclude (Taylor specifically for pre-Saxon Britain, and Douglas more generally) that material remains alone are generally inadequate for drawing valid inferences or testing models concerning many specifics of prehistoric social organization. While pessimistic in tone, both papers are reasonable and persuasive. They serve to remind us that there very likely are points at which archeological inference becomes inadequate and even deceptive. On a more optimistic note, G. Johnson applies central place theory to some of R. Adams's settlement pattern data from southern Mesopotamia. While his results are somewhat inconclusive—in part owing to the character of the data—Johnson is able to argue effectively that central place models, although developed for use in industrial market economies, may well have some utility for predicting priorities in preindustrial settlement location.

Despite the obvious importance of community form and the shape of individual residential structures, there has been little systematic study of these features by archeologists interested in settlement patterns. K. Flannery makes an important contribution to this subject in his consideration of the implications of two basic community forms and their appearance and distribution in the archeological and ethnographic record: the circular-hut compound and the nucleated village with rectangular residences. Flannery finds that, ethnographically, circular-hut compounds are associated with polygynous extended family households and that rectangular-house villages are associated with societies where the monogamous nuclear family is the primary residential unit. Flannery's main point is that this ethnographic association makes it possible to infer, from purely archeological data on community type and residence form, whether the basic production unit was an extended polygynous family or the nuclear family. A major reason for wanting to make this distinction archeologically lies in the greater capacity of the nuclear family residence pattern for intensifying production owing to the more selective sharing of storage inherent in such a pattern. Since the intensification of production is one of the key aspects of the evolution of ranked and stratified societies, it is very likely that settlement pattern analysis of the sort initiated

here by Flannery will provide some of the key data and interpretation bearing on this major anthropological problem.

Several papers are concerned with regional settlement surveys of ancient complex societies. Two of the best are by J. Ward-Perkins for central Italy north of Rome, and R. Adams for southern Mesopotamia. Both authors have only limited control over functional variability within or between their sites, and thus they cannot yet adequately describe the successive settlement systems they are dealing with. They can, however, delineate changing regional settlement patterns over broad areas throughout a very considerable time period, and thus make some very sound inferences concerning a variety of cultural processes. Ward-Perkins's study has the additional advantage of having good historic documentation for much of the time period of interest, and his findings may have some applicability to wholly prehistoric situations elsewhere: he finds that major changes in settlement pattern occur in the context of either the construction of new communication-transportation arteries or a massive breakdown in effective governmental authority.

A final theme of great interest is an explicit effort to define the state and process of urbanism. This is a problem that has plagued archeologists for decades. There have been several attempts to provide definitions of urbanism that are useful in a prehistoric context—but these have often proved both imprecise and productive of sterile argument. This problem stems in part from a common failure among prehistorians to consider some of the theoretical bases for distinguishing "urban" from "rural" in different kinds of societies. Papers by M. Smith, D. Grove, and B. Trigger all emphasize the inadequacy of the size and density variables generally employed by archeologists to differentiate urban from nonurban communities: there is simply too much overlap for these to be readily useful. These writers, and others, stress that functional considerations are the key variables—as many archeologists have long recognized. Furthermore, the point is well made that urbanism probably cannot be defined on an absolute basis, cross-culturally, but must be considered in a relative sense for each system under consideration. These are all critical points. The main problem, however, is not directly attacked here: how are we to apply these considerations to prehistoric archeological data?

Two general criticisms of the volume come to mind in conclusion: (i) there is an inadequate treatment of the recent highly relevant advances in the methodology of functional inference; and (ii) there is too limited useful application of many stimulating theoretical issues to bodies of archeological data. The latter deficiency is particularly significant, and it may well indicate that many of the archeological data we now possess are inadequate for the kinds of questions we now wish to ask about process in prehistory.

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Philosophical Idea

Hierarchy Theory. The Challenge of Complex Systems. HOWARD H. PATTEE, Ed. Braziller, New York, 1973. xvi, 156 pp., illus. Cloth, $6.95; paper, $2.95. International Library of Systems Theory and Philosophy.

This is a book of six essays on the general subject of hierarchies in the natural world. The point of the whole book is to convince the reader that it is important to analyze natural systems as hierarchies; consideration at one level alone is bound to have severe limitations. It would seem to be something we all knew: has the book made either the need or the process any clearer? The advantages gained, I fear, are very slight despite some excellent essays and some original ideas. The good essays are descriptions of particular hierarchial systems. The two on development in living organisms by Clifford Grobstein and James Bonner are to be recommended. Among the good ideas special note should be made of Herbert Simon's temporal model for the evolution of hierarchial levels. He shows that the grouping of events in time produces stability points that do not disintegrate and that provide stepping-stones for future change. Another important idea is that of Richard Levins, who points out that through natural selection a complex system is bound to evolve into a system of interconnected subunits or hierarchies; hierarchial levels do not all arise by the compounding of simpler ones; they also may arise by the subdivision of a complex system.

The book raises two important points, both of which are found in the larger contributions of the editor, Howard Pattee. First, whereas most of the authors, like Levins, assume that natural selection plays a major role in the formation of biological hierarchies, Pattee adopts the mathematician-physicist position that not only is Darwinian theory basically suspect but there must be a more fundamental "hierarchy theory" that applies equally to physical as well as biological hierarchies. Second, the assumption is made that there is a "hierarchy theory" to be discovered and that once established it will shed an enormous amount of light on all of nature. I find myself quite skeptical on this point. It seems to me that it is essentially a philosophical point, and that in the past the track record for the illumination of science by philosophy has been poor. On the most esoteric level, with all its analytical power, symbolic logic did little for science other than comb out some of the nonsense. A better example might be the earlier interest in emergent evolution and holism, which were to be theoretical frames that would provide greater insight into the nature of biological complexity. To a very limited degree they were helpful as a way of organizing thoughts, and the same can be said of looking at living and nonliving systems as hierarchies (or as objects of "systems analysis"). But, in my view, the advantage gained by such "hierarchy theory" is, and will remain, modest, and hierarchy theory is not, in itself, likely to be the avenue of large, exciting advances in either physics or biology.

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Antarctica

Antarctic Geology and Geophysics. Proceedings of a symposium, Oslo, Norway, August 1970. RAYMOND J. ADIE, Ed. Universitetsforlaget, Oslo, 1972. x, 876 pp., illus. $65. International Union of Geological Sciences, Series B, No. 1.

This comprehensive volume on Antarctic geology and geophysics contains 126 papers (seven in abstract form only) which were presented at a symposium organized by the Scientific Committee on Antarctic Research (SCAR). It is probably the most complete and up-to-date work on the structure of the Antarctic continent and surrounding areas now in print. There