Review Author[s]:
Michael Allen Hoffman


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Reviewed by Michael Allen Hoffman, Western Illinois University

The remote sensing “Handbook” and seven supplements published by the Cultural Resources Management Division of the U.S. National Park Service between 1977 and 1981 are important contributions to a growing field.

Although archaeologists have used remote sensing in the form of aerial photography for over 60 years, in the last decade the application of aerospace technology has sparked a methodological revolution in our discipline. Because remote sensing provides an efficient method of correlating ecological and cultural data, it is attractive to the interdisciplinary, regionally oriented projects that typify modern scientific research.

Within such projects, archaeological data can be extraordinarily relevant in helping to discover (or rediscover) valuable resources and forgotten technologies and in shaping more effective management strategies. Examples of the “applied” uses of remotely sensed archaeological data include: (1) analysis of long-range weather trends; (2) providing evidence of the engineering capabilities and limitations of former irrigation systems, (3) locating usable aquifers or untapped sources of water through discovering, mapping, and analyzing ancient hydraulic features such as canals, dams, qanats, and cisterns; (4) providing more accurate temporal data for water management projects (e.g., flood control, port and harbor maintenance, etc.); (5) dating Quaternary tectonic movements of relevance to mineral and petroleum exploration; (6) discovering forgotten chemical, industrial, or agricultural processes that are economically feasible today, especially in countries where cheaper energy sources and a more diversified, “appropriate technology” are desirable; (7) studying ancient industrial technologies to locate potentially valuable resources; (8) understanding the long-term consequences for human society of environmental degradation (including processes like desertification); (9) detection of specific areas of long-range seismic stability and instability that are not geologically apparent, by correlation of settlement pattern, excavation, and archival data; (10) developing regional, national and international programs of cultural resources management that conserve and develop monuments of potential significance for tourism; (11) helping to integrate modern innovations into traditional, long-time efficient strategies of land use and resource management; and (12) providing estimates of the comparative, long-range viability of technological, administrative and social systems, thereby furnishing an important and heretofore missing element in cost-benefit estimation for economic planning and development.

The Remote Sensing Division of the National Park Service, responsible for producing the invaluable “Handbook” and seven supplements reviewed here, grew out of a program initiated by the Park Service
and the University of New Mexico about 1969 to study the prehistoric roadways of Chaco Canyon.

By 1972, an SAA symposium on "Aerial Remote Sensing Techniques in Archaeology," chaired by Gunnerman, brought together a number of scientists interested in the archaeological applications and potentials of this developing technique. Undoubtedly, the optimal visual conditions in the arid and semiarid southwestern United States, plus the abundance of architectural ruins, canals, and roads and the long history of well documented archaeological research have enabled Lyons, Ebert, and their colleagues to produce impressive results by applying different remote sensing strategies to archaeological data. Aided by foresighted support from the National Park Service, a number of publications appeared, beginning about 1976, documenting the experiments undertaken in Chaco Canyon and the San Juan Basin (Thomas R. Lyons, editor, "Remote Sensing Experiments in Cultural Resources Studies," Reports of the Chaco Center, No. 1, National Park Service [NPS] and University of New Mexico, 1976). By 1977, the applications of remote sensing had been extended beyond the Southwest (Thomas R. Lyons and Robert K. Hitchcock, editors, "Aerial Remote Sensing Techniques in Archaeology," Reports of the Chaco Center, No. 2, NPS and University of New Mexico, 1977). In 1978, Lyons and Scovill challenged traditional methods used by even state-of-the-art archaeologists in their article "Non-destructive Archaeology and Remote Sensing: A Conceptual and Methodological Stance," and Ebert emphasized the value of a regional approach in his "Remote Sensing and Large-Scale Cultural Resource Management" (Thomas R. Lyons and James I. Ebert, editors, Remote Sensing and Non-Destructive Archaeology, Cultural Resources Management Division, NPS, Washington, D.C., 1978).

It is from this background that the Handbook and its supplements have emerged. These volumes are primarily of two types: first, how-to-do-it manuals and second, short case histories of regional (i.e., non-southwestern U.S.) applications of remote sensing. The bibliography published in Supplement No. 3 is especially useful.

Obviously, not all archaeologists will find all volumes equally valuable. Moreover, each of us is likely to know of specific sites, images, and techniques that illustrate particular problems better than those published. There are many areas not represented, and it is to be hoped that more regional supplements will appear eventually. Naturally, there is an emphasis on arid and semiarid areas where remote sensing techniques show the most spectacular results. Nevertheless, these are minor inconveniences and do not detract from the value of these volumes. It is safe to say that the Handbook and its supplements are the kinds of basic references that every professional archaeologist—Old or New World—should have on his shelves, especially if a more recent compendium, Cultural Resources Remote Sensing (Thomas R. Lyons and Frances Joan Methien, editors, Cultural Resources Division, NPS, Washington, D.C., 1980), is added to the collection.

The Transition to Statehood in the New World.

GRANT D. JONES and ROBERT R. KAUTZ, editors. Cambridge University Press, Cambridge, 1981. ix + 254 pp., illus., biblio., index. $27.50 (cloth).

Reviewed by Richard E. Blanton, Purdue University

This volume is the outcome of a conference held in 1979, at Hamilton College, titled "The Transition to Statehood in the New World: Toward a Synthesis." The volume is a useful contribution to the literature in this important area, but it falls somewhat short of constituting synthetic coverage, as several major new projects that have produced data pertinent to the problem area are not represented, and several researchers whose recent contributions in this area have been important are also absent. Still, the selection of contributors is an interesting one that includes a mixture of relative novices with old hands.

The organization of the book reflects the usual tendency of researchers to focus their attention on some particular realm of sociocultural phenomena, a realm that is a priori identified as the one that is most cogent for beginning an analysis of social change. So, after an introductory chapter in which the editors discuss the problem at hand and review each article, the contributions are presented in three sections: "sociopolitical factors in state formation" (with papers by Robert Carneiro and Jonathan Haas), "environmental factors in state formation" (with papers by Mark Cohen and Richard MacNeish), and "ideological factors in state formation" (with papers by Michael Coe, Richard Keatinge, and David Freidel).

In my opinion, the main value of the book is to be found in the fact that several of the contributions are symptomatic of the tendency of American cultural evolutionism to turn away from the strongly materialist explanatory schemes and toward explanatory paradigms that include a stronger component of ideological factors in the calculus of causality. In their introductory chapter, the editors propose that a consideration of "'crisis cults'" will be one way that archaeologists might more fruitfully approach the problem of the growth of charismatic leadership in early states. This proposal seems to contain some degree of merit, but no actual analysis of Mesoamerican or Peruvian archaeological data is attempted with such a hypothesis in mind. Michael Coe augments the ideological orientation of the volume by reminding the reader how important religious belief was to the ancient Mesoamericans. Richard Keatinge proposes several possible analogies for ancient Peruvian religion. David Freidel relates differing forms of politicoreligious art to differing forms of political organization, contrasting the Maya highlands and lowlands.

Jonathan Haas stands as the sole representative in the volume of the Marx/Engels mode of explaining political evolution (now, in the United States at least, the Morton Fried mode), in which class conflict is regarded as the major engine of political change. In a rather wide-ranging but far from complete review, Haas attempts to find evidence in the Mesoamerican and Peruvian archaeological data for differential ac-