

nize in this book data they have seen in previous literature. Students who enter the field will be discouraged by the high price of the book.

MICHAEL BÁRÁNY

*Department of Biological Chemistry,  
University of Illinois Medical Center,  
Chicago 60612*

## Settlement Anthropology

**Archeological Approaches to the Present.** Models for Reconstructing the Past. JOHN E. YELLEN. Academic Press, New York, 1977. xvi, 260 pp., illus., + site plans. \$24. Studies in Archeology.

This book consists of two parts, which will interest largely different audiences. The first half comprises a consideration of the logic and use of ethnographic analogy and ethnoarcheology, a presentation of the environment, subsistence economy, and seasonal round of the Bushmen in the Dobe area of southern Africa, an outline and discussion of models of hunter-gatherer band social and economic organization, and a discussion and selective analysis of the author's data on settlements, population, and activities among these Bushmen, both on an intra- and an intersite basis. All this is contained in some 136 heavily illustrated pages. Given the brevity of the treatment of these several topics, Yellen has done a remarkable job of giving us a readable, clear, and coherent text.

The specialist will want more information at many points in the first half of the book. Much of this is available in its second half, which comprises three appendixes giving an extensive and detailed presentation of the settlement data collected and used by the author and is augmented by a separate packet of large-scale site maps. To my knowledge, this is the first book to appear out of the recent concern with ethnoarcheology in which a substantial body of original data is presented, and it is likely that the presentation of raw data in such detail will ultimately prove to be its major contribution. Much of the discussion and many of the ideas and models presented in the first half of the book exist elsewhere in the archeological and ethnographic literature. In fact, as Yellen points out, some substantial parts of this book are taken directly from or are heavily based on earlier articles of which he is an author.

What is new in the first part of the book is the analysis of intra- and intersite spatial organization and variability. Some of this analysis is straightforwardly based on the data presented in

the second half of the book. Much more analysis can be done, and Yellen explicitly intends the data he provides to be used for this purpose by others.

Some of the analysis strongly depends on the insights and expertise Yellen brings to the task from his experience and observations in the field. This part of the analysis is not easily replicated or extended by other workers. An example of basic importance is the definition and recognition of the kinds and significance of spatial clusters at different scales within settlements. Not only the significance but even the definition of these clusters might well have escaped someone without direct experience among the Bushmen, and, clearly as Yellen presents them, the decisions involved remain subjective. Yellen gives no explicit, objective procedures for defining the clusters even though he states several times that such boundaries as the LMS (limit of most scatter) can be determined by "fairly objective means." His insight is valuable, but a significant amount of subjective interpretation remains.

Nowhere is this problem more evident or more critical than in the case of the proposition that the probability of any particular maintenance activity's taking place at any particular site is purely a function of length of occupation, an idea that runs prominently through Yellen's analysis and discussion. If true this would fundamentally affect the interpretation not only of Yellen's Bushman data but of all archeological analyses of settlement systems. Yet Yellen, though he claims to have demonstrated this proposition, in fact has merely stated it repeatedly and emphatically. There are several reasons for not accepting Yellen's insistence on this point as a demonstration. One is that such a finding would be contrary to numerous ethnographic descriptions of seasonal and location-dependent activities. Another is that the sample available from Yellen's work with the Bushmen to test this and, unfortunately, all other propositions is very small, is heavily biased in that it is limited to the camps established by two brothers and their immediate families, and represents only seven months of the year covering only three of the five seasons recognized by the Bushmen. However, the most interesting hints at a different conclusion come from the very data Yellen presents. Only 45 percent of the variance in the number of "special activity areas" is explained by length of occupation. And there are suggestions of differential association of activities and site environment: of skin preparation and pegging activities six took place at

camps in nut groves, one at a camp near salt pans, and none at camps in the "molapos," and two out of three quiver-making activities took place in molapo camps, one in a camp near salt pans, and none at any nut grove camp. None of this is the "proof" Yellen finds consistently lacking in archeological research, but it is ample to cast doubt on whether he has shown that the activities are "time-dependent only." This is an important point both methodologically and substantively for all workers in this field.

Finally, the book is marred by a number of typographical errors. Many are trivial, but some may be damaging to its value, particularly since its main contribution may well be the data it presents. It is easy to correct for the misspellings and reversals of illustrations (as in the case of maps 5 and 7), but how are we to handle such discrepancies as different numbers of days of occupation given for a site in different tables (as in the case of camp 37, mapped camp 14, in tables 3 and 4) or the fact that a point off the map for site 3 was used to define the ALS (absolute limit of scatter) for the site? Such inaccuracies can be significant, especially with the very small samples one has here. Probably no strong patterning will be obscured by small errors such as these, but it is a pity that they are there at all, suggesting that some caution is needed in the use of these unique and valuable data.

ROBERT WHALLON

*Museum of Anthropology,  
University of Michigan,  
Ann Arbor 48109*

## Books Received

**Abortion.** Malcolm Potts, Peter Diggory, and John Peel. Cambridge University Press, New York, 1977. x, 576 pp., illus. Cloth, \$37.50; paper, \$10.50.

**Architecture and Social Behavior.** Psychological Studies of Social Density. Andrew Baum and Stuart Valins. Erlbaum, Hillsdale, N.J., 1977 (distributor, Halsted [Wiley], New York). xii, 112 pp., illus. \$11.95. Complex Human Behavior.

**The Audubon Society Book of Wild Animals.** Les Line and Edward Ricciuti. Abrams, New York, 1977. 296 pp., illus. \$37.50.

**Behavioral Primatology.** Advances in Research and Theory. Vol. 1. Allan M. Schrier, Ed. Erlbaum, Hillsdale, N.J., 1977 (distributor, Halsted [Wiley], New York). xiv, 194 pp., illus. \$14.95.

**Cannibals and Kings.** The Origins of Cultures. Marvin Harris. Random, New York, 1977. xii, 242 pp. \$10.

**The Castrated Family.** Harold M. Voth. Sheed Andrews and McMeel, Kansas City, 1977. xviii, 242 pp. \$9.95.

(Continued on page 90)

## Announcing the 3rd AAAS Colloquium on

# Research & Development in the Federal Budget and in Industry

June 20-21, 1978

*The third annual AAAS report on R&D in the federal budget for FY 1979 and including a special section on R&D in industry and its impact on the economy will be the subject of an*

**AAAS  
Science & Public Policy  
Colloquium  
Washington, D.C.  
June 20 and 21, 1978**

*The AAAS R&D analysis project, sponsored by the AAAS Committee on Science and Public Policy and initiated in 1976, has resulted in two well-received books on research and development in the federal budgets for FY 1977 and FY 1978, and two highly successful colloquia in June of 1976 and 1977, attended by 200-250 AAAS members, government officials, and others.\* The June 20-21, 1978 colloquium will offer a forum for constructive discussion of current issues in federal and industry R&D with officials of the Executive and Legislative branches and from industry and universities. **Research & Development: AAAS Report III** by Willis H. Shapley and Don I. Phillips will be available in book form for the June 1978 colloquium.*

*Specific topics this year will be the impact of the first complete Carter budget on R&D, trends and problems of R&D in industry, and the impact of R&D on the economy. For information and reservations, write to*

**Ms. Patricia S. Curlin  
AAAS Office of Public  
Sector Programs  
1776 Massachusetts Ave., N.W.  
Washington, D.C. 20036**

\*Research and Development in the Federal Budget: FY 1977 and Research and Development in the Federal Budget: FY 1978 (\$5.50 each; AAAS members, \$4.95) and the 1976 and 1977 Colloquium Proceedings (\$5.25 each; AAAS members, \$4.75) may be purchased from AAAS.

## RESEARCH NEWS

(Continued from page 38)

a small resistive mantle drag force and a ridge push that is about the same size as the net pull from trenches. They reached these conclusions by constructing a mathematical model relating plate driving forces to plate stress. In much the same way that the combination of plate forces had been adjusted to fit observed plate motion in other models, they adjusted the relative sizes of the forces until the stress distribution generated by the model most closely resembled that observed.

Although the presence of compressional stress in the plates is often cited as evidence against the importance of slab pull, Forsyth and Uyeda believe that their model is generally consistent with current stress data. This is possible, they say, because the net pull from the trenches is small. Although ridge push is small and is counteracted by a number of smaller opposing resistances in the system, it is still able to compress the plates, they say.

The situation may be more complicated than even these multiple force models indicate. Turcotte has suggested several other possible sources of stress in addition to the forces driving the plates. He believes that these stresses may be induced by the cooling of newly created plates, the nonspherical shape of the earth, or changes in the weight of plates because of erosion and sedimentation.

Additional kinds of geophysical evidence bearing on the question of what drives the plates may be accessible to current survey techniques. Patterns of mantle convection should depend on how the mantle interacts with the plates above it. Such patterns may be detectable as patterns of gravity, heat flow, and crustal elevation variations over oceanic plates. Combining the latter two types of data, Kevin Furlong and David Chapman of the University of Utah have found what they consider to be a strong suggestion of long, longitudinal convection cells in the central and eastern Pacific. Chapman points out that, although their interpretation is debatable, he believes that it tends to argue against the plates being driven by the mantle.

Current data are obviously not decisive, but they are expected to improve in quantity and quality. Modeling of historical plate behavior, refinement of global geophysical surveys, and extension of plate stress measurements will continue, but, as Forsyth puts it, "No one is willing at this time to stake a reputation on what drives the plates."

—RICHARD A. KERR

## BOOKS RECEIVED

(Continued from page 43)

**How to Use a Pocket Calculator.** A Guide for Students and Teachers. Henry Mullish. Arco, New York, 1977. 192 pp., illus. Cloth, \$8.95; paper, \$3.95.

**The Human Brain.** M. C. Wittrock with seven others. Prentice-Hall, Englewood Cliffs, N.J., 1977. xiv, 214 pp., illus. Cloth, \$8.95; paper, \$3.95.

**Hydraulic Behaviour of Estuaries.** D. M. McDowell and B. A. O'Connor. Halsted (Wiley), New York, 1977. viii, 292 pp., illus. \$27.50.

**Image Formation and Cognition.** Mardi Jon Horowitz. Appleton-Century-Crofts, New York, ed. 2, 1978. xviii, 398 pp., illus. \$18.95.

**In Small Things Forgotten.** The Archeology of Early American Life. James Deetz. Drawings by Charles Cann. Anchor/Doubleday, Garden City, N.Y., 1977. x, 184 pp., illus. Paper, \$2.50.

**In the Deserts of This Earth.** Uwe George. Translated from the German edition (Hamburg, 1976) by Richard and Clara Winston. Harcourt Brace Jovanovich, New York, 1977. viii, 310 pp., illus. + plates. \$14.95. A Helen and Kurt Wolff Book.

**Introduction to the Mathematics of Inversion in Remote Sensing and Indirect Measurements.** S. Twomey. Elsevier, New York, 1977. x, 244 pp., illus. \$65. Developments in Geomathematics 3.

**Issues in Cross-Cultural Research.** Proceedings of a conference, New York City, Oct. 1975. Leonore Loeb Adler, Ed. New York Academy of Sciences, New York, 1977. vi, 754 pp., illus. Paper, \$42. Annals of the New York Academy of Sciences, vol. 285.

**Language and Mental Development.** Pierre Oléron. Translated from the French edition by Raymond P. Lorion. Erlbaum, Hillsdale, N.J., 1977 (distributor, Halsted [Wiley], New York). x, 182 pp. \$16.50.

**Microbial Ecology.** R. Campbell. Halsted (Wiley), New York, 1977. vi, 148 pp., illus. Paper, \$9.75. Basic Microbiology, vol. 5.

**Mountain Monarchs.** Wild Sheep and Goats of the Himalaya. George B. Schaller. University of Chicago Press, Chicago, 1977. xviii, 426 pp., illus. + plates. \$25. Wildlife Behavior and Ecology.

**Panic in the Pantry.** Food Facts, Fads and Fallacies. Elizabeth M. Whelan and Fredrick J. Stare. Atheneum, New York, 1977. xxii, 232 pp., illus. Paper, \$3.95. Reprint of the 1975 edition.

**Paradox.** The Case for the Extraterrestrial Origin of Man. John Philip Cohane. Crown, New York, 1977. x, 182 pp., illus. \$10.

**The Perceptual World of the Child.** T. G. R. Bower. Harvard University Press, Cambridge, Mass., 1977. vi, 90 pp., illus. Cloth, \$6.95; paper, \$2.95. The Developing Child.

**Perspectives on Social Psychology.** Clyde Hendrick, Ed. Erlbaum, Hillsdale, N.J., 1977 (distributor, Halsted [Wiley], New York). vi, 362 pp., illus. \$19.95.

**Rocketship.** An Incredible Voyage through Science Fiction and Science Fact. Robert Malone with J. C. Suarès. William E. Maloney, Ed. Harper and Row, New York, 1977. 128 pp., illus. Paper, \$6.95.

**Scleractinia of Eastern Australia.** Part I, Families Thammasteriidae, Astrocoeniidae, Pocilloporidae. J. E. N. Veron and Michel Pichon. Australian Institute of Marine Science, Townsville, Queensland, 1976. vi, 86 pp., illus. + plates. Paper, A\$4.70. Australian Institute of Marine Science Monograph Series, vol. 1.