

this curious volume can answer old questions, raise new ones, open vistas, become unforgettable.

In short, Sagan has done it again. The book's title may be Broca's brain, but its subject is Sagan's.

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Mesoamerican Settlements

Prehistoric Coastal Adaptations. The Economy and Ecology of Maritime Middle America. Papers from a symposium, St. Louis, May 1976. BARBARA L. STARK and BARBARA VOORHIES, Eds. Academic Press, New York, 1978. xx, 316 pp., illus. \$21. *Studies in Archeology*.

This volume is a collection of essays most of which were originally presented at a meeting of the Society for American Archeology. Its purposes are to present a sampling of the archeological and ethnohistorical research being carried out within coastal habitats of Mesoamerica; to define the nature of the coastal ecosystem as a type; and to examine the significance of coastal habitats in the overall pattern of Mesoamerican prehistory.

Ten papers bearing on these questions are presented under the headings Procurement Patterns, Settlement Patterns, and Exchange Patterns. These papers are preceded by a historical review of coastal studies and are followed by an Overview section that includes a commentary by William Sanders and a summary statement on "future research directions" by the editors.

The first goal of the volume is fulfilled through the presentation of research findings from the coastal zones of Mexico, Belize, Costa Rica, Nicaragua, and Panama. "Coastal" is considered to denote an ecotype in which most of the subsistence and technological resources of a population are derived from marine, estuarine, or lagunal sources. On this criterion the geographically diverse Mesoamerican coastal habitats are analytically comparable.

With respect to the second goal, then, the definition of coastal environments is a cultural one, and the distinction between ecology and economy is blurred. Although many papers acknowledge the importance of interaction among socio-cultural, biotic, and abiotic variables, the last two are usually discussed from the viewpoint of assessing exploitable resources. Little in the discussions indicates a theoretical position from which human populations are regarded as but

one component of an ecosystem, and there is no introduction to or treatment of the structure, productivity, or variability of the coastal habitat relative to ecotones or other communities. Because of the restrictions imposed by the anthropocentric view of environment, for this reader the volume falls short of defining the nature of coastal ecotypes. The volume primarily treats the economics of maritime adaptations, ranging from local consumption of subsistence products to long-distance trade of nonsubsistence goods. Investigations of biological and geomorphological processes are subsidiary, but are identified by the editors as a future research priority.

The comments and criticisms of the overview section are fruitful in synthesizing the individual studies and in fulfilling the third goal of the volume. For this reviewer, Sanders's comments generate the most provocative contributions to the overview. Rejecting arguments that attribute the settlement of coastal areas to the abundance and dependability of those habitats, Sanders suggests that early permanent settlements and ranked societies occur in coastal zones only where costly fishing and collecting can be underwritten by agricultural surpluses generated by inland groups. He hypothesizes that riverine ecosystems are more likely loci of such developments than coasts. In criticizing the analyses of settlement systems by archeologists, Sanders suggests that, aside from difficulties arising from deficient data bases, central-place models based on market principles of profit will be unsuccessful in archeological analyses because prehistoric exchanges were probably based largely on redistribution. The final theoretical point made by Sanders is that archeologists' time would be better spent studying local exchange systems than long-distance trade as a factor in sociopolitical evolution. Drawing on studies of ecological energetics, he suggests that control over production and distribution of high-consumption, general-use, low-value goods (local production) is more important to social stratification than is long-distance movement of low-consumption, restricted-use, high-value items.

The editors correctly point out that Sanders's propositions are dependent on a number of unproven assumptions. As part of their summary they expand on methodological and theoretical issues he raises, as well as bring some substantive data to bear on their assessment with respect to coastal dynamics. The value of Sanders's critique and the editors' discussion lies in the fact that both suggest questions for debate and should prompt

research that transcends a focus on a single habitat or a single culture area. In this sense the volume addresses itself to a broader readership than the Mesoamerican coastal specialist.

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Books Received

Alcoholism. New Directions in Behavioral Research and Treatment. Proceedings of a conference, Os, Norway, Aug. 1977. Peter E. Nathan, G. Alan Marlatt, and Tor Løberg, Eds. Plenum, New York, 1978. x, 404 pp., illus. \$35. *NATO Conference Series III*, vol. 7.

Alimentation et Travail. Nutrition and Work. Proceedings of a symposium, Nancy, France, Sept. 1977. Centre National de la Recherche Scientifique, Paris, 1978. x + pp. 205-742, illus. Paper, 96 F. *Annales de la Nutrition et de l'Alimentation*, vol. 32, No. 2-3.

Brain Mechanisms in Memory and Learning. From the Single Neuron to Man. Papers from a symposium, London, 1977. Mary A. B. Brazier, Ed. Raven, New York, 1978. xviii, 400 pp., illus. \$30. *International Brain Research Organization Monograph Series*, vol. 4.

A Business-like Approach to COBOL. Henry Mullish. Crowell (Harper and Row), New York, 1978. xx, 346 pp., illus. \$11.95.

Chemical and Biochemical Aspects of Electron-Spin Resonance Spectroscopy. Martyn Symons. Halsted (Wiley), New York, 1978. xiv, 190 pp., illus. \$19.50.

Chemical Toxicology of Food. Proceedings of a symposium, Milan, June 1978. C. L. Galli, R. Paoletti, and G. Vettorazzi, Eds. Elsevier/North-Holland, New York, 1978. viii, 388 pp. \$48. *Developments in Toxicology and Environmental Science*, vol. 3.

DNA. The Ladder of Life. Edward Frankel. McGraw-Hill, New York, ed. 2, 1979. xviii, 234 pp., illus. \$8.95.

Drugs, Lipid Metabolism, and Atherosclerosis. Proceedings of a symposium, Philadelphia, Aug. 1977. David Kritchevsky, Rodolfo Paoletti, and William L. Holmes, Eds. Plenum, New York, 1978. xii, 444 pp., illus. \$37.50. *Advances in Experimental Medicine and Biology*, vol. 109.

Electromagnetic Interactions of Hadrons. Vol. 2. A. Donnachie and G. Shaw, Eds. Plenum, New York, 1978. xvi, 574 pp., illus. \$57.50. *Nuclear Physics Monographs*.

Electronic Measurements. Philip Kantrowitz, Gabriel Kousourou, and Lawrence Zucker. Prentice-Hall, Englewood Cliffs, N.J., 1979. xiv, 398 pp., illus. \$18.95.

Enzyme-Activated Irreversible Inhibitors. Proceedings of a symposium, Strasbourg, France, July 1978. N. Seiler, M. J. Jung, and J. Koch-Weser, Eds. Elsevier/North-Holland, New York, 1978. viii, 360 pp., illus. \$49.

EPH-Gestose. Übersicht und statische Studie über 2485 Schwangere mit Gestose-Zeichen. R. Barthel-Wottke and C. Goecke. Organisation Gestosis-Press, Basel, 1978. 136 pp. Paper, SFr. 20. Publication No. 13.

Growth and Development of the Full-Term and Premature Infant. Lectures from a

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LETTERS

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products. Each drug advertisement in medical journals claims superior results. Competition is fierce.

The most recent peddling medium for drugs is the program for continuing medical education foisted on physicians by state licensing boards on the premise that better medical care will result. Drug manufacturers are making hay by offering an array of films, programs, and tapes giving "CME credit," but which are basically sales gimmicks. Most of these "educational" films are made by cooperative medical school faculty members and are accepted by physicians as scientific and objective. The "science" of marketing apparently has reached its peak of development in the selling of drugs to my sophisticated, educated, gullible colleagues. As physicians swallow more pharmaceutical company propaganda, patients swallow more pills.

Propaganda + physician + patient + prescription = profit is a highly successful formula.

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Nuclear Risk

In support of Richard L. Meehan's editorial "Nuclear safety: Is scientific literacy the answer?" (11 May, p. 571), I should like to ask, Where are the crowds of protesters clamoring to close down O'Hare airport? Or the jet aircraft manufacturers? Where are the banners and slogans to shut down the automakers of Detroit? . . . the cigarette factories of the South? It's interesting that the actual statistics of 273 killed in one jet crash, 300 or more highway fatalities in one weekend, and uncounted, documented deaths from emphysema and heart problems have not caused more than a slight ripple in public opinion.

In spite of all the outcry, the nuclear generating industry record is *no* fatalities after 20 years of operation. From the Three Mile Island incident the government and independent experts have estimated the possible increase in cancer mortality resulting from radiation releases to be 3 to 4 per 100,000 individuals compared to an expected 4000 to 5000 cancer deaths in the same population from other causes (1).

Nuclear safety—yes, no argument, it must be examined, maintained, and worried about. However, the hysteria of much of the media and the American

public about *possible* nuclear risks should be tempered by the realization of the *demonstrated* greater risks we daily accept. Why do we accept some risks and reject others? I don't know, but, when the people in the loud antinuclear groups and lobbies stop smoking and traveling in airplanes and cars, then perhaps I will have more respect for their position on the risks affecting my life.

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Continuation Methods

The article "Continuation methods: new ways to solve equations" (Research News, May 4, p. 488) was an extremely effective presentation of new and difficult mathematical ideas to a general audience. Gina Bari Kolata stresses the new continuation methods; it can be pointed out that the older "simplicial" methods mentioned there are in fact actually competitive and useful in solving hard problems, and both approaches are still evolving. The basic idea of continuation has a certain simplicity shown in the article which may be more readily communicated to many scientists. In any case, continuation can be thought of as an alternative way of explaining and implementing some of the ideas of Scarf and Eaves though their work uses simplicial methods for implementation.

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I enjoyed reading Kolata's article but believe she is not justified in asserting that the older simplicial methods of Scarf and Eaves are much more difficult to implement than the newer differentiable continuation methods. It seems to me that both methods need further study and computational experience.

One problem is to see how machine algorithms can be developed which unify the simplicial and differentiable approaches. Perhaps an even more important problem is to make a study of the "complexity" of these methods; that is, find a theory of speed of computation for path following algorithms.

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BOOKS RECEIVED

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course, Curacao, Nov. 1977. J. H. P. Jonxis, Ed. Excerpta Medica, Amsterdam, 1978. xiv, 294 pp., illus. \$31. Jonxis Lectures, vol. 1.

The Handbook of Cancer Immunology. Harold Waters, Ed. Garland STPM Press, New York, 1978. Five volumes, illus. Vol. 1, Basic Cancer-Related Immunology. viii, 344 pp. Vol. 2, Cellular Escape from Immune Destruction. viii, 276 pp. Vol. 3, Immune Status in Cancer Treatment and Prognosis—Part A. viii, 434 pp. Vol. 4, Immune Status in Cancer Treatment and Prognosis—Part B. viii, 336 pp. Vol. 5, Immunotherapy. viii, 478 pp. Each volume, \$37.50; the set, \$165.

Lung Cancer. Progress in Therapeutic Research. Papers from a conference, May 1977. Franco M. Muggia and Marcel Rozenzweig, Eds. Raven, New York, 1978. xxvi, 614 pp., illus. \$45. Progress in Cancer Research and Therapy, vol. 11.

A Manpower Policy for Primary Health Care. Report of a Study. National Academy of Sciences, Washington, D.C., 1978. xiv, 106 pp. Paper, \$6.25. IOM Publication 78-02.

Marine Mining of the Continental Shelf. Legal, Technical and Environmental Considerations. Michael S. Baram, David Rice, and William Lee. Ballinger (Lippincott), Cambridge, Mass., 1978. xxii, 302 pp., illus. \$22.50.

New Processes of Waste Water Treatment and Recovery. Papers from a symposium, Sept. 1977. G. Mattock, Ed. Published for the Society of Chemical Industry by Horwood, Chichester, England, 1978 (U.S. distributor, Halsted [Wiley], New York). 416 pp., illus. \$60.

Observer's Handbook 1979. John R. Percy, Ed. Royal Astronomical Society of Canada, Toronto, 1978. 140 pp., illus. Paper, C\$4.

Progress in Learning Disabilities. Vol. 4. Helmer R. Myklebust, Ed. Grune and Stratton, New York, 1978. x, 262 pp. \$19.50.

Psychological Development. A Life-Span Approach. Paul Henry Mussen, John Jane-way Conger, Jerome Kagan, and James Gewirtz. Harper and Row, New York, 1978. x, 502 pp., illus. \$14.95.

Radiometric Calibration. Theory and Methods. Clair L. Wyatt. Academic Press, New York, 1978. xiv, 200 pp., illus. \$21.

Sensory Integration. R. Bruce Masterton, Ed. Plenum, New York, 1978. xvi, 580 pp., illus. \$39.50. Handbook of Behavioral Neurobiology, vol. 1.

Severe and Mild Depression. The Psychotherapeutic Approach. Silvano Arieti and Jules Bemporad. Basic, New York, 1979. x, 454 pp. \$20.

Transport in Australia. Papers from a meeting, Feb. 1978. R. B. Potts, Ed. Australian Academy of Science, Canberra City, 1978. iv, 160 pp., illus. Paper, A\$3.95. Forum Report No. 12.

Understanding Human Sexuality. Janet Shibley Hyde. McGraw-Hill, New York, 1978. xxii, 566 pp., illus. \$14.95.

Water Development and Management. Proceedings of a conference. Mar del Plata, Argentina, Mar. 1977. Published for the United Nations by Pergamon, New York, 1978. Four volumes. lxxxviii, 2646 pp., illus. \$400. Water Development, Supply and Management, vol. 1.

Who Goes There? The Search for Intelligent Life in the Universe. Edward Edelson. Doubleday, Garden City, N.Y., 1979. xx, 196 pp. + plates. \$8.95.