

scientists have found themselves excluded or their contributions devalued because they were black.

Pearson gathered information for the study from over 600 black scientists who had received doctorates before 1974; he compared this group with a set of approximately 700 white scientists in the same fields and from essentially the same doctoral institutions. Pearson found it useful to divide the black respondents into three groups according to whether they received the doctorate before 1955, between 1955 and 1964, or after 1964. Anyone familiar with the position of black Americans in the era before the civil rights movement will find few surprises in the findings on the first of the three groups. Nearly all in the group grew up in predominantly black communities, attended largely black high schools, and received their undergraduate degrees from historically black colleges. They obtained their first positions in the same set of colleges, often before they pursued the doctorate. The doors to white universities and to the world of industry stood closed to this earliest cohort. One of its members reported:

At the time I finished my Ph.D. I thought I was great. So I sent letters to universities all over the country. All I received from white schools were "we regret that there are no vacancies." I sent more letters to white than black colleges. Many white administrators apologized for not hiring me.

Pearson does not describe an atmosphere for black scientists that is totally overcast, however. The later graduates in his study faced far broader opportunities than did their predecessors. The proportion taking positions in historically black colleges declined, and the percentage moving into industrial and governmental positions rose. Pearson attributes the change to the civil rights movement, which pushed employers to remove many of the barricades that had made universalism an operative principle only for some.

Pearson shows that for the most recent of the three cohorts—Ph.D. recipients in the 1965–1974 period—the prestige of the doctoral department bore a closer link to the character of the first position than obtained for the earlier two cohorts. But the proportion of the scientists who graduated from departments rated as prestigious or strong declined over time. The third cohort contained a larger fraction from unranked departments than did the first cohorts. If this trend persists, then we may continue to find few blacks in the nation's leading universities, not for the racially based reasons that once predominated but because of the paucity of blacks in the programs from which the elite departments recruit.

In addition to his depiction of the scien-

tists in his study, Pearson reports in general on the position of black Americans in higher education, particularly in scientific and engineering fields. But a reader would find more recent and comprehensive information on this in reports from the National Science Foundation such as *Women and Minorities in Science and Engineering* (1984). The contribution of the present volume lies in its account of changes over time in the educational and employment experiences of a sizable population of black scientists.

CORA BAGLEY MARRETT

Department of Sociology,
University of Wisconsin, Madison 53706

Northern Habitations

Prehistory of the Eastern Arctic. Academic Press, Orlando, FL, 1985. xiv, 327 pp., illus. \$49. New World Archaeological Record.

The Eastern Arctic is one of the most inhospitable environments ever to have been occupied on a permanent basis by native cultures. Not until 4000 years ago were techniques developed that enabled humans to settle most of the 10,000 square kilometers between the Mackenzie Delta and the east coast of Greenland. Frequently mischaracterized as a homogeneous wasteland, the Eastern Arctic includes areas that are ecologically diverse and reasonably productive. Nevertheless, by the time humans learned to survive here, only parts of the Pacific remained to be settled.

Although the Eastern Arctic has been investigated archeologically for more than a century, until now it has never had a detailed overview text of its own. The treatments of the eastern regions in general works on arctic archeology convey the impression of an "outback" through comparison with the ecological richness and higher cultural profiles of the North Pacific–Bering Sea region. This viewpoint stresses the importance of Alaskan cultures as biological and cultural progenitors, citing the initial pioneering movement eastward 4000 years ago by an Alaskan Denbigh-related culture and the eastward movement around A.D. 1000 of the specialized Thule-Punuk whale-hunting culture, which became the foundation for modern Inuit life in Canada and Greenland. Migration has been the preferred instrument of change, but diffusion and change in situ also have been cited as possible factors in the shift from Pre-Dorset to Dorset culture at 500 B.C.

The appearance of this synthesis of Eastern Arctic prehistory provides an opportunity to reassess the outback and steady-state

theories and to evaluate the region as a laboratory for studying cultural response to extreme environmental conditions.

Addressing the need for a basic descriptive text, Maxwell emphasizes archeological evidence and interpretations and scientific enterprise. He opens with a summary of physical and biological conditions stressing regional and temporal (seasonal and long-term) resource variability and human ecology. This section emphasizes Inuit hunting, utilizing ethnographic and personal observations. The tenuous nature of human existence is stressed because changes in climate, weather, animal distributions, currents, and driftwood can and did set limits on survival. A brief review of paleoecology and paleoclimatology establishes that Eastern Arctic environments have responded to warming and cooling in ways that must have influenced cultural development, especially in High Arctic regions.

The following sections concern prehistory. Five approaches can be traced: colonization, culture history, paleoethnology, regional studies, and methods. In a basically chronological presentation Maxwell utilizes standard nomenclature for cultural classifications. Occupation begins with early Paleo Eskimo cultures known as Independence I and Pre-Dorset. In the description of this initial colonization, almost certainly from Alaska, archeological and paleoenvironmental data are woven together with analogies from Eskimo ethnography and band-level theory into a vivid reconstruction of how this and later arctic populations may have responded to new opportunities. Here and elsewhere Maxwell carefully evaluates evidence and presents contrasting interpretations, so that the work is indeed a thorough summary of the state of the field.

The ground rules for Eastern Arctic life having been established, Independence I and Pre-Dorset cultures are described with reference to McGhee's hypothesis that they represent different ethnic groups. More likely, the differences in house forms, settlement patterns, and tool styles result from a combination of regional specialization and inadequate dating of supposedly "early" Pre-Dorset sites in the High Arctic. The account of the transition from late Pre-Dorset to early Dorset features discussion of Maxwell's South Baffin sites, Independence II, and Groswater sites from Labrador, emphasizing change in situ. Underrated in my view are possible Norton influences for such elements as cooking vessels, ground burins, semi-subterranean houses, and increased maritime adaptation, but as in the early Paleo Eskimo period proof of Alaskan connections has not been forthcoming from the poorly known intervening region.

The succeeding Dorset sequence is represented as comprising early, middle, and late phases during which diffusion seems to account for remarkably widespread stylistic horizons. These "cultures" are in fact stages in the development of a single, unified late Paleoeskimo culture. Problems like the absence of Middle Dorset occupations in north-central arctic regions and their dominance in Newfoundland and Labrador during a relatively warm period; the periodic re-emergence of formal mid-passage houses; and the retention of archaic tool types like the spalled burins in certain regions continue to confound the model of directional stylistic change that is accepted for Dorset archeology. Perhaps ethnicity or faulty archeological assumptions feature in these conundrums.

Later prehistory is presented in a more cursory fashion that betrays the author's sympathy for things "Dorset." The Thule culture's entry from Alaska along a High Arctic route; its subsequent expansion southward, overwhelming and probably partly absorbing Dorset culture; and changes leading to the historic period are given less detailed treatment than the Paleoeskimo developments, and much recent literature on Thule economics is missing. The author's choice not to describe developments after the arrival of Europeans (excepting Norse) establishes this book as a "prehistory" rather than an "archeology." This decision reflects an unfortunate lack of attention by archeologists to the period of greatest relevance to Inuit peoples today, the study of which holds much promise for integrated approaches to anthropology and history.

This reviewer notes the author's fine reconstructions of technologies and lifeways of prehistoric cultures, which breathe life into the dry archeological data and also reveal significant gaps. Maxwell also performs a service by assembling detailed descriptions of his and others' sites, including some not previously published. His tables of radiocarbon dates are extremely useful, as is his discussion of problems involved in radiocarbon dating of arctic materials.

These strengths make *Prehistory of the Eastern Arctic* invaluable both as a layperson's introduction and as a specialist's reference. It is in the latter regard that flaws are more noticeable: duplication and poor quality of many illustrations; thin use of text citations and incomplete bibliography; cursory treatment of art and ideology; limited use of Inuit myth and oral traditions; less than equal time for Greenland; over-emphasis on climate as the cause of culture change; little attention to the role of local and inter-regional economic exchange of scarce commodities in promoting cultural horizons;

and limited use of settlement and subsistence data.

What is most important is that Maxwell has filled the void between site reports and popularized accounts. Its accuracy and fairness ensure the work's usefulness for many years. No one can read this volume without appreciating the breadth of the author's contributions and the stimulation he has given to the field.

This book demonstrates that the Eastern Arctic has great potential for contributing to our understanding of adaptive and evolutionary aspects of cultural development. Contrary to previous belief, the region's prehistory, even as known today, was dynamic, and its cultures were resourceful and durable, producing their own fine artistic traditions and where environmental conditions permitted societies as complex as many known in the Western Arctic. The Eastern Arctic's diverse environments, large area, excellent site and material preservation, and long periods of relative equilibrium and isolation from external influences and the relationships it exhibits between ecologically productive regions and centers of development and dispersal (core-periphery/colonization-extinction models) offer attractive prospects for study leading toward the broader socioeconomic and demographic understanding that will be needed in the next generation of research.

WILLIAM W. FITZHUGH
National Museum of Natural History,
Smithsonian Institution,
Washington, DC 20560

Books Received

Amphibian Species of the World. A Taxonomic and Geographical Reference. Darrel R. Frost, Ed. Allen Press, Lawrence, KS, and Association of Systematics Collections, Lawrence, KS, 1985. vi, 732 pp. \$85.

Angiographic Anatomy of the Anterior Inferior Cerebellar Artery. Jan J. Heimans, Jaap Valk, and Anthony H. M. Lohman. Springer-Verlag, New York, 1985. viii, 93 pp., illus. Paper, \$23. Advances in Anatomy, Embryology and Cell Biology, vol. 92.

Animal Intelligence. L. Weiskrantz, Ed. Clarendon (Oxford University Press), New York, 1985. vi, 223 pp., illus. \$39.95. Oxford Psychology Series, no. 7. First published in *Philosophical Transactions of the Royal Society of London*, series B, vol. 308. From a meeting, Oxford, England, June 1984.

The Art of Planning. Selected Essays of Harvey S. Perloff. Leland S. Burns and John Friedmann, Eds. Plenum, New York, 1985. xiv, 364 pp. \$39.50. Cities and Development.

Assessing Medical Technologies. Committee for Evaluating Medical Technologies, Institute of Medicine. National Academy Press, Washington, DC, 1985. xviii, 573 pp., illus. \$42.50.

Assessment of Ventricular Function. Angelo Raineri, Robert D. Leachman, and Jan J. Kellermann, Eds. Plenum, New York, 1985. xii, 347 pp., illus. \$59.50. Ettore Majorana International Science Series. Life Sciences, vol. 21. From a symposium, Erice, Sicily, Oct. 1983.

Ataxia-Telangiectasia. Genetics, Neuropathology, and Immunology of a Degenerative Disease of Childhood. Richard A. Gatti and Michael Swift, Eds. Liss, New York, 1985. xxiv, 407 pp., illus. \$79. Kroc

Foundation Series, vol. 19. From a conference, Solvang, CA, Jan. 1984.

Biotechnology. Principles and Applications. I. J. Higgins, D. J. Best, and J. Jones, Eds. Blackwell Scientific, Palo Alto, CA, 1985. xii, 422 pp., illus. \$60; paper, \$29.

Catalyst Characterization Science. Surface and Solid State Chemistry. Marvin L. Deviney and John L. Gland, Eds. American Chemical Society, Washington, DC, 1985. xii, 616 pp., illus. \$89.95. From a symposium, Philadelphia, Aug. 1984. ACS Symposium Series 288.

The Cereal Rusts. Vol. 2. Diseases, Distribution, Epidemiology, and Control. Alan P. Roelfs and William R. Bushnell, Eds. Academic Press, Orlando, FL, 1985. xxiv, 606 pp., illus. \$74.50.

Cereal Tissue and Cell Culture. S. W. J. Bright and M. G. K. Jones, Eds. Nijhoff/Junk, Dordrecht, Netherlands, 1985 (U.S. distributor, Kluwer, Hingham, MA), viii, 304 pp., illus. \$42.50.

Cerebral Cortex. Vol. 3. Visual Cortex. Alan Peters and Edward G. Jones, Eds. Plenum, New York, 1985. xiv, 424 pp., illus. \$65.

Chemistry of Coal Conversion. Richard H. Schlosberg, Ed. Plenum, New York, 1985. xii, 336 pp., illus. \$52.50.

The Great School Debate. Which Way for American Education? Beatrice and Ronald Gross, Eds. Simon and Schuster, New York, 1985. 544 pp. Paper, \$7.95. A Touchstone Book.

Growth and Defect Structures. V. V. Osiko et al., Eds. Springer-Verlag, New York, 1985. vi, 150 pp., illus. \$44.50. Crystals 10.

Growth Factors and Transformation. James Feramisco, Brad Ozanne, and Charles Stiles, Eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 1985. xviii, 450 pp., illus. Paper, \$70. From a meeting, Cold Spring Harbor, NY, Cancer Cells 3.

Handbook of Marine Mammals. Vol. 3, The Sirenia and Baleen Whales. Sam H. Ridgway and Richard Harrison, Eds. Academic Press, Orlando, FL, 1985. xviii, 362 pp., illus. \$64.50.

Health in an Older Society. National Academy Press, Washington, DC, 1985. x, 241 pp. Paper \$19.50. America's Aging.

Introduction to Computer Mathematics. Russell Merris. Computer Science Press, Rockville, MD, 1985. x, 284 pp., illus. Student's text, \$27.95; teacher's edition, \$32.95. Computers and Math Series.

Introduction to Detonation Theory. Wildon Fickett. University of California Press, Berkeley, 1985. xvi, 249 pp., illus. \$29.95.

Medicine Man. A Young Doctor on the Brink of the Twenty-First Century. David Black. Franklin Watts, New York, 1985. viii, 183 pp. \$14.95.

Memoirs of a Computer Pioneer. Maurice V. Wilkes. MIT Press, Cambridge, MA, 1985. x, 240 pp., illus. \$19.95.

Memory Function Approaches to Stochastic Problems in Condensed Matter. Myron W. Evans, Paolo Grigolini, and Giuseppe Pastori Parravicini, Eds. Interscience (Wiley), New York, 1985. xvi, 556 pp. \$84.95. Advances in Chemical Physics, vol. 62.

Metal Forming and Impact Mechanics. William Johnson Commemorative Volume. S. R. Reid, Ed. Pergamon, New York, 1985. xiv, 348 pp., illus. \$50.

Molecular Structure of the Number 21 Chromosome and Down's Syndrome. George F. Smith, Ed. New York Academy of Sciences, New York, 1985. viii, 250 pp., illus. Paper, \$55. Annals of the New York Academy of Sciences, vol. 450. From a conference, New York, Nov. 1984.

Monoclonal Antibodies. Diagnostic and Therapeutic Use in Tumor and Transplantation. Satya N. Chatterjee, Ed. PSG Publishing, Littleton, MA, 1985. xiv, 175 pp., illus. \$50. From a conference, San Francisco, Sept. 1983.

Principles of Computer Design. Leonard R. Marino. Computer Science Press, Rockville, MD, 1986. xiv, 578 pp., illus. \$37.95.

Principles of Electron Tunneling Spectroscopy. E. L. Wolf. Oxford University Press, New York, 1985. xiv, 576 pp., illus. \$80. International Series of Monographs on Physics.

Principles of Health Risk Assessment. Paolo F. Ricci, Ed. Prentice-Hall, Englewood Cliffs, NJ, 1985. xiv, 417 pp., illus. \$50.

Problems and Solutions in Electromagnetic Theory. C. M. Lerner. Wiley-Interscience, New York, 1985. xii, 614 pp., illus. Paper, \$34.95.

Proceedings of Physics in Collision 4. A. Seiden, Ed. Editions Frontières, Gif sur Yvette, France, 1985. x, 516 pp., illus. \$55. From a conference, Santa Cruz, CA, Aug. 1984.