

in south Victoria Land" by McKelvey provide useful insight into the important controversy surrounding the interpretation of the Sirius Formation, a till found at scattered localities in the Transantarctic Mountains. The key question is whether the East Antarctic Ice Sheet has existed essentially as a persistent feature or has collapsed to an archipelago of smaller ice sheets over the last 15 million years. Similarly, the chapters by Tingey and Laird on Archean, Proterozoic, and Paleozoic geology provide useful background to the recently proposed hypothesis that Antarctica, Australia, and North America formed a supercontinent in late Precambrian time.

Overall, I think this will prove to be a useful reference book for both experienced and novice Antarctic geologists. Interpretations of the geological history of Antarctica are changing rapidly, and in some cases have perhaps already passed this book by; such is the nature of scientific inquiry. Nevertheless, the value of Tingey's book as a guide to the older literature will remain high for some time to come, especially given that much of the previous work is contained in symposia volumes and unpublished theses.

Scott Borg

National Science Foundation,
Washington, DC 20550



Maya Paleodemography

Precolumbian Population History in the Maya Lowlands. T. PATRICK CULBERT and DON S. RICE, Eds. University of New Mexico Press, Albuquerque, NM, 1991. xx, 395 pp., illus. \$40. Based on a meeting, Denver, CO, 1985.

How many people inhabited the Maya Lowlands during the Classic period? What was the nature of pre-Hispanic Maya urbanism? How many people can a tropical forest habitat support? These are questions that have been repeatedly addressed in the archaeological investigation of the Yucatan Peninsula and adjacent low-lying areas of Central America. The present volume represents a pause for assessment at the end of several decades of research on the paleodemography of lowland Maya civilization. This period has seen the prevailing view of the ancient Maya change from one of largely vacant ceremonial centers surrounded by an environmentally limited low-density rural population to one of the Maya as a true urban civilization supported by a wide range of agricultural systems. With the pace and scope of settlement studies increasing rap-

idly in recent years, some reflection on the accomplishments of and problems encountered in the investigation of ancient Maya population dynamics is certainly called for.

The purpose of the volume, as Rice and Culbert put it in their opening chapter, is to provide a sourcebook of lowland population data and to make clear the grounds on which population estimates are derived from the raw data. One of the principal strengths of the volume is that through the focus on methodology comparisons of population characteristics across the Maya Lowlands become possible. Collectively, the chapters summarize the diversity of settlement in the Maya Lowlands and bring into focus the true range of demographic variation across both space and time. Ironically, the focus on demographic reconstruction also gives rise to the only fundamental weakness of the volume, the avoidance of issues of environmental carrying capacity. By avoiding the quasi-independent check of population figures provided by carrying capacity estimates, slippery though that subject may be, the volume generally skirts the important question of to what degree population growth in the Maya Lowlands was experienced as population pressure. In short, the editors consciously turn away from trying to explain changes in population across space and time, a mandate followed by most of the authors.

The 16 chapters in the volume are organized chiefly by site and region. A few of the authors address paleodemography on a regional scale, analyzing data from several areas of the lowlands such as the Peten lakes and Belize River valley. Most of them, however, consider data from site-scale surveys, including Copan, Quirigua, Seibal, Tikal, Nohmul, Santa Rita Corozal, Komchen, and Sayil. Despite this spatially fractured organization, many common problems are discussed.

One of these is the degree to which residential features are visible as recognizable surface remains. Faced with geomorphological settings ranging from alluvial floodplains (as at Quirigua) and wet regions with rapid soil development (as at Seibal) to semiarid regions with scant soil cover (as at Komchen), the studies make it clear that sampling strategies must be adapted to specific environments. A related problem is that of determining which features or parts of features functioned as actual residences. Though many archaeological features have direct ethnographic counterparts, most sites also include features of ambiguous function and origin. At Sayil, for example, Tourtellot, Sabloff, and Smyth wrestle with the problem of how to interpret a large number of small, amorphous rubble mounds. At Nohmul, Pyburn notes that the form of dwellings, and hence the way they are represented in archaeological remains, appears to have varied significantly over time.

Several of the authors also consider other effects of archaeological sampling strategies on demographic data, including the possible underrepresentation of some time periods because of changes in the spatial concentration of population that may not be revealed by standard survey grids. A related problem of distortion may appear on a regional scale, where larger settlements have received more attention than smaller ones. As Fry notes, some smaller sites "do not show the extreme swings in population characteristic of the major central places, and the smaller centers show greater continuity of occupation."

Cumulatively, this volume provides a highly useful database for examining such pervasive questions in Maya studies as the nature of population growth associated with the rise of Maya civilization and the extent, severity, and timing of the collapse of Classic civilization in the eighth through tenth centuries A.D.—as well as earlier, more limited demographic declines. It should also prove useful to other scholars interested in examining the nature of demographic changes associated with the rise and fall of preindustrial civilization in a tropical environment. As Santley notes in his summary chapter, most studies of long-term population trends have been produced by historical demographers using urban census data, whereas the Maya record allows for the examination of an urban-to-rural continuum in which farming was the principal means of livelihood: "It is precisely here that Maya archaeology has great potential to make a meaningful contribution to our knowledge about long-term patterning in regional and site demography." The fact that the ancient Maya inhabited a range of tropical ecosystems with varying degrees of success makes this work all the more important as increasing numbers of land-hungry people stream into the world's tropical frontiers today.

Nicholas P. Dunning

Department of Geography,
University of Cincinnati,
Cincinnati, OH 45221-0131



A Young Collector

The Dragon in the Cliff. A Novel Based on the Life of Mary Anning. SHEILA COLE. Drawings by T. D. Farrow. Lothrop, Lee and Shepard, New York, 1991. xii, 212 pp., illus. \$13.95.

Children's books about women in science are relatively rare, and only a few tell about women active more than a century ago. One recent book that does so is *The Dragon in the Cliff* by Sheila Cole, an account in the first



Mary Anning in adulthood. [British Museum of Natural History]

person of the early career of Mary Anning (1799–1847). Mary, the daughter of a cabinetmaker in Lyme Regis, was a fossil hunter, one of the first to make important finds in the Mesozoic strata of southern England. Cole gives us a fictional reconstruction of Mary as a person, her fascination with fossils and the problems involved in being different from other young women of her time and class: “The fossils are my livelihood, not just something to collect and study. It is somewhere between . . . the Lyme of my neighbors and the world of the geological gentry . . . that I must find a place for myself.” The story Cole tells is as accurate as limited historical information will allow. She gives Mary a modern-sounding narrative voice in which she relates the emotional ups and downs of her triumphs and difficulties. In spite of this wholly fictional aspect of the book, the story provides a realistic perspective on pre-Darwinian paleontology and its impact on the life of a provincial girl. More important, Cole gives her readers a lasting image of how intelligence, necessity, and determination combined to shape Mary Anning’s life and give her a significant place in the history of paleontology. The story will be especially interesting to young people who wonder about pursuing a career that conflicts with their upbringing. Although we have come a long way in nearly two centuries, readers will also realize that many young women of today face similar problems when they choose to pursue an interest in science.

Anna K. Behrensmeyer
Department of Paleobiology,
National Museum of Natural History,
Washington, DC 20560

Women in Science: Bibliographic Update

The 13 March 1992 “Women in Science” issue of *Science* included a listing (p. 1449) of books on that theme that have been reviewed in *Science* in recent years. Below is information about some more recent works.

Books Reviewed

Historical or biographical works

The Dynamic Genome: Barbara McClintock’s Ideas in the Century of Genetics, Nina Fedoroff and David Botstein, Eds.; reviewed 259, 1206 (1993)

A Passion for Physics: The Story of a Woman Physicist, Joan Freeman; reviewed 257, 1977 (1992)

To the Ends of the Earth: Women’s Search for Education in Medicine, Thomas Neville Bonner; reviewed 257, 820 (1992)

A World Without Women: The Christian Clerical Culture of Western Science, David F. Noble; reviewed 258, 829 (1992)

Works concerned with a gendered perspective in research

Menstrual Health in Women’s Lives, Alice J. Dan and Linda L. Lewis, Eds.; reviewed 259, 843 (1993)

Periods: From Menarche to Menopause, Sharon Golub; reviewed 259, 843 (1993)

Whose Science? Whose Knowledge? Thinking from Women’s Lives, Sandra Harding; reviewed 256, 863 (1992)

Books Received

American Women in Science Before the Civil War. Elizabeth Wagner Reed. Published by the author, 400 Church St. S.E., Minneapolis, MN 55455. iv, 214 pp., illus. Spiral bound, \$12.

Brief biographies of 22 “women who published in science before 1861,” beginning with Elizabeth Cary Agassiz and ending with Emma Hart Willard, preceded by an essay on women as members and patrons of scientific bodies and as collectors, teachers, and artists.

Biology and Feminism. A Dynamic Interaction. Sue V. Rosser. Twayne, New York, 1992. xviii, 192 pp. \$26.95; paper, \$14.95. Impact of Feminism on the Arts and Sciences.

One of the first volumes in a series that will consider a variety of academic disciplines as related to feminism. The author proceeds from summaries of the history and current status of women in biology to critiques of research in organismal and in cellular and molecular biology and the natural sciences generally to a consideration of the possible effects of feminism on teaching and research in biology. A bibliographical essay by Faye Chadwell is appended.

Brazzaville Beach. William Boyd. Avon, New York, 1992. xvi, 320 pp. Paper, \$4.99. Reprint, 1990 ed.

A novel one of whose themes is a female primatologist’s discovery that the view of chimpanzee life on which her male mentor’s reputation and funding rest does not hold up.

Nobel Prize Women in Science. Their Lives, Struggles, and Momentous Discoveries. Sharon Bertsch McGrayne. Birch Lane (Carol), New York, 1993. xii, 419 pp., illus. \$26.95.

Biographical essays on 14 Nobelists, categorized as “first generation pioneers” (Marie Curie, Lise Meitner, Emmy Noether), “second generation” (alphabetically from Gerty Cori to Rosalyn Yalow), and “the new generation” (Jocelyn Bell Burnell). Informal photographs and information from interviews with living prize-winners are included.

Secrets of Life, Secrets of Death. Essays on Language, Gender and Science. Evelyn Fox Keller. Routledge, New York, 1992. x, 195 pp. \$49.95; paper, \$15.95.

Nine essays, mostly reprinted from various sources and more explicitly concerned with the nature of scientific knowledge generally than with gender, by the author of a previous collection entitled *Reflections on Gender and Science*.