the regional data from the perspective of adaptive strategies, however, and identifies two trends between 10,000 and 2000 B.C.: (i) an increasing reliance on upland resources followed by an increasing reliance on processed seeds, and (ii) changes from small transient groups during the Pinto period to comparatively large communities on valley floors during the Elko period and back to small transient groups during the subsequent Saratoga Springs period.

In the final chapter, O'Connell, Jones, and Simms provide a critical review of the culture-historical and descriptive ecological approaches to Great Basin prehistory. They argue for an approach based on evolutionary ecology and specifically on optimal foraging theory. O'Connell, Jones, and Simms argue that settlement and subsistence patterns are not determined by resource abundance alone but are strongly influenced by the costs and benefits of exploiting the various resources and by the abundance of those resources incorporated in the diet. Dietary change is accounted for in terms of resource costs and benefits and climatic change. The underlying principle is that, all else being equal, those strategies that produce the greatest return in energy relative to time and effort expended will be followed. Optimal foraging theory in effect provides more sophisticated grounds for predicting and identifying change in subsistence resulting from changes in environment. The problem, however, is that all else may not be equal. As the authors note, demographic and technological changes are factors to be considered. Optimal foraging theory explains technological changes in cultural evolution no more convincingly than it explains genetic change in biological evolution.

If there is a weakness in this volume it is the unstated assumption (or stated assertion) that technology shows little or no change during post-glacial times in the Great Basin, and that the varibility exhibited by ethnographic settlement and subsistence systems is representative of the past. None of these papers presents evidence illustrating the relative importance of functional tool types, and yet it is technology that allows humans to bring down an artiodactyl or process small, hard seeds. The relative ranking of these resources is clearly dependent on the technology of the human group.

Man and Environment in the Great Basin is a remarkable volume in that it provides both a historical perspective of the development of the ecological approach to Great Basin archeology and a thorough review of current problems and probable future directions. It is required reading for Great Basin anthropologists. The authors and editors have produced a provocative and exciting work meeting high standards of scholarship.

CLAUDE N. WARREN
Department of Anthropology,
University of Nevada,
Las Vegas 89154

The Nursing Profession

Nursing History. New Perspectives, New Possibilities. ELLEN CONDLIFFE LAGEMANN, Ed. Columbia University, Teachers College Press, New York, 1983. x, 220 pp. $18.95. From a conference, Pocantico Hills, N.Y., May 1981.

Until recently, the history of nursing was primarily a glorious story of the rise and development of the nursing profession. M. Adelaide Nutting and Lavinia Dock, two leaders in the profession in the early 20th century, set the model. In their four-volume *History of Nursing*, published between 1907 and 1912, they presented a proud history of nursing's progress: once a category of work performed by the untrained, nursing evolved by the dawn of the 20th century into a profession shaped by new criteria including educational standards, a systematic training program, and a professional hierarchy. Others built on this model, illuminating nursing's continued progress through the century. These histories of the profession, written almost exclusively by nurses for nurses, were the only histories of nursing.

In the 1960's, many historians shifted their attention away from the traditional focus on leaders in society and began to look at history "from the bottom up," becoming interested in the history of women and the history of workers. Within this context, nursing captured the attention of historians. The result, as represented by the essays in this book, is a new and different history of nursing.

Nursing History: New Perspectives, New Possibilities is a product of the last two decades of research by historians into nursing's past. The nine essays that make up the book move beyond the traditional study of the nursing profession and its leaders and examine nursing in relation to variables such as gender, professional status, and social class.

What ties the essays in *Nursing History* together is this new approach, which expands the history of nursing beyond its institutional boundaries and examines it within the context of society at large. Individually, of course, each essay has its own emphasis and point of view. Nancy Tomes's essay, "The silent battle: nurse registration in New York State, 1903–1920," is a study of the impact of restrictive licensing laws on the nursing profession in the early 20th century. Building upon the history of the medical profession, which shows that doctors gained substantial status and autonomy from licensing reform, Tomes argues that nurses did not share in the benefits of licensing reform. According to Tomes, physicians initially supported nurses who sought to regulate nursing through licensing laws. While nurses saw licensing as a way to upgrade their profession, "hospital men" believed that licensing would bring a new standard of quality to nursing and ultimately improve hospital management. When nurses tried through licensing to create an elite, prestigious profession like medicine, their alliance with doctors fell apart. "Hospital men" fought the professional parity nurses sought and made hospital needs—that is, an abundant supply of nurses—their priority. As a result, doctors fought to redefine regulatory reform in nursing to suit their own ends. Tomes argues that ultimately it was nurses' gender and position on the professional hierarchy below doctors that denied them the advantages doctors gained from licensing reform.

Barbara Melosh's essay, "Doctors, patients, and 'big nurse': work and gender in the postwar hospital," also examines the impact of gender on nursing. In particular, Melosh addresses the heightened tension between work and womanhood for nurses in the period immediately following World War II. The development of new medical specialties and sophisticated medical technology placed demands on nurses for more education and specialized training. Hospital physicians became increasingly reliant on nurses for their expertise, and nurses gained greater respect, prestige, and autonomy than ever before. These changes in the nursing profession coincided, however, with a resurgence of the notion of femininity. Women who had entered the workplace temporarily during the war crisis returned to their "proper place" at home to assume their womanly roles as wives and mothers. The blossoming of this ideology of domesticity, popularly known as the "feminine mystique," conflicted with the new demands on the nursing profession for skill and expertise.

Melosh examines this tension between work and gender in nursing through the

lens of popular culture. She shows that fiction, nursing manuals, and sociological studies sought to set standards of behavior for nurses that would accommodate nursing to both the new standards in medicine and the resurgence of domesticity and femininity. Ultimately, according to Melosh, literature seized upon the 19th-century solution to the conflict between work and womanhood. It portrayed women as ideally suited for the work of nursing—healing, helping, caretaking—simply because they were women.

While Tomes and Melosh emphasize the importance of gender in the history of nursing, Jane Pacht Brickman reveals the significance of other variables as well. In her essay, "Public health, midwives, and nurses, 1880–1930," she presents an analysis of the decline of midwifery in early 20th-century America that moves beyond the popular explanation that female midwives were the victims of the sexism of male physicians. Pointing to the example of Europe, where midwives survived and thrived, Brickman argues that gender alone does not explain the demise of American midwifery. Instead, she suggests that the fate of midwifery was tied to two major goals of doctors in the early 20th century: the creation of a hierarchy in medicine with themselves at the top, and the demise of the public health movement. According to Brickman, midwives threatened doctors' campaign to make scientific training and expertise the cornerstone of the medical profession. At the same time, midwives were trapped in the contradictions of the public health movement. On the one hand they were victims of doctors' assault on the Sheppard-Towner Act, which gave public funds for education in maternal and children's health. Yet they were also defeated by the acceptance among public health advocates themselves of "expertise" as the foundation of the public health movement. Brickman argues that, ultimately, desire for professional status and economic self-interest, rather than sexism, were at the heart of doctors' assault on midwifery in the early 20th century.

Other essays in this book provide illuminating perspectives on issues such as the cross-class alliances among nurses and upper-class women and the conflicts among nurses themselves. Ellen Lagemann's introduction discusses the evolution of nursing history, and Mary Ann Dzuback's bibliographic essay provides a valuable listing of the literature on the history of nursing from 1960 to 1980.

The breadth and depth of the essays in this book reveal the richness and complexity of nursing history. Indeed, they show that the new history of nursing is an integral part of women's history, labor history, and the history of medicine and society.

VIRGINIA G. DRACHMAN
Department of History,
Tufts University,
Medford, Massachusetts 02155

The Polar Magnetosphere

High-Latitude Space Plasma Physics. BENGT HULTQVIST and TOR HAGFORS, Eds. Plenum, New York, 1983. x, 543 pp., illus. $75. Nobel Foundation Symposia, 54. From a symposium, Kiruna, Sweden, March 1982.

The aurora borealis has been the subject of speculation and folklore for northern peoples since prehistoric times. The connection between auroras and ground magnetic observations was suggested by Halley in 1716, and by the end of the 19th century scientific observation of the aurora and magnetic activity was organized on an international scale. It was Birkeland in 1908 who suggested that corpuscular radiation from the sun was diverted by the geomagnetic field into the high-latitude regions to form the aurora, establishing the connection between the geometry of the earth's field and the northern lights.

In the last 25 years, this high-latitude region of the earth's upper atmosphere has been probed with balloons, radar, rockets, and satellites as well as ground magnetic observations. Although often overlooked in the excitement of missions to the outer planets, observations of the earth's magnetosphere have achieved a high level of sophistication in the past ten years. This collection of papers from a symposium reviews our present understanding of the intricate dynamics of the polar regions of the earth's magnetosphere.

The book is organized about two upcoming European research efforts, the EISCAT incoherent scatter radar facility in Scandinavia and the Swedish Viking satellite scheduled to be launched into a polar orbit in 1984. The main sections of the book review recent developments in radar observation of the ionosphere and satellite observation of the polar magnetosphere, with a transitional section discussing recent theories of the connection between solar activity and the high-latitude region.

The magnetosphere is a highly dynamic region, especially during times of high solar activity when plasma is injected toward the earth from the plasma sheet, a reservoir of plasma in the magnetic tail that extends from the earth in the direction away from the sun. Measurements from a single satellite are difficult to interpret since a change in plasma characteristics may result either from crossing a boundary or from a temporal change in the system. Thus, as is stated in a paper by Winningham and Heelis, we are in the position of blind men describing an elephant, able to sample isolated portions of the object without directly observing the whole picture. Those who study the magnetosphere occupy a middle ground between laboratory plasma physicists, who have a great deal of control and diagnostic capabilities, and astrophysicists, who can observe only the end product of the physical processes that produce the detectable radiation.

Comparison with the previous Nobel symposium in this field (*Physics of the Hot Plasma in the Magnetosphere*, Bengt Hultqvist and Lennart Stenflo, Eds., Plenum, 1975) illustrates the progress that has been made since then despite these limitations. Although it has long been recognized that the discrete aurora is caused by 10 keV electrons, how these electrons are accelerated has been in dispute. In the previous book, the case for acceleration of particles by static electric fields parallel to the magnetic field was argued by Evans, despite theoretical objections based on the high conductivity of the plasma along the magnetic field. Today, thanks largely to observations by the S3-3 satellite (Mozer and Temerin) and the two Dynamics Explorer satellites (Chappell), the existence of such fields is accepted and the discussion has turned to mechanisms (Goertz and Borovsky, Galeev, Lyons, and Haerendel).

Another major advance since the previous symposium has been the realization that the earth's magnetosphere is populated not only by the solar particles but also by ions ejected from the ionosphere. Again, in the previous Nobel symposium this was first being suggested; now thanks to S3-3 and the International Sun Earth Explorers (Johnson) and the European GOES satellites (Balsiger) the existence of ionospheric particles is accepted and the consequences for plasma dynamics are being studied (Gendrin).

In short, for the worker or student in magnetospheric physics, this book collects a wide selection of the exciting new subjects in the field. Readers from outside the field may find the specialized