orgasm have significance for a better understanding of the marked changes that occur in the total organism as a result of arousal. Similarities of response between the sexes are emphasized. The data are cogent to psychosomatics and to the biology of reproduction. One would hope that these studies have been extended to include persons with attitudinal problems relating to sex expression, as well as the introduction of such experimental variables as the effects of stress.

At the human level, as Gebhard indicates, situational and learning factors are, as would be expected, increasingly pertinent in arousal and response. The clinical implications are immediately obvious. Man may establish all kinds of associations to the sexual situation. Factors that mold his responsiveness include age, health, fatigue, nutritional state, and recency of drive fulfillment. Cultural components play a major part. As Davenport has shown for a southwest Pacific community, the extensive sex-related behavior patterns involving modesty, morality, and gender role are often difficult to understand. For example, in the society, early masturbation and premarital homosexuality for males are encouraged and accepted. It would appear that, in this culture, a male with no homosexual experience is statistically abnormal. Two questions are raised: that of gender role and that of psychopathology. Exclusive homosexuality and transvestism are relatively unknown in his population. Apparently, the problems of gender identification and homosexual behavior may differ for Davenport's culture and for the exclusive homosexual in American society that Hooker describes. Sex typing (Sears) is based on training practices. Perhaps the social acceptability of the particular type of behavior experienced and expressed will also affect the ultimate gender identification. Many factors operate—for example, variations in family organization including the membership, lines of authority, sibling order, and the amount of time the father and mother can spend at home with the children (Romney).

Other meaningful topics are treated in these volumes. The Beach symposium includes a chapter, by DeVore, on free-ranging baboon troops and contributions, by McGill, on the effects of genotype of the recovery of sex drive in the male mouse. Whitney evaluates the early stress effects on menarcheal age of humans.

Beach has written a valuable integrating chapter for his own book and a provocative chapter for that edited by Money. In the latter, he traces the effects of evolutionary change on sex behavior and vice versa.

These books present an extensive analysis of sexual behavior studied by a variety of old and new methods. There are studies based on field examination, anthropologic and zoologic (DeVore), and on autoradiography, such as that of Pfaff which involves hormonal implantation in the brain utilizing radioactively labeled sex hormones. There are also controled laboratory studies that involve manipulation of a variety of variables.

These symposia constitute a major contribution to the integrative knowledge of sexuality as it shifts from simple nuclear exchange through mating behavior to gender role. It is pertinent to note that, in an evolutionary sense, social customs and traditions are mediated through the increased neural organization of the human nervous system and its vast relationship to the glandular and biochemical functions of the body. Both books, despite Money's useful glossary, are basically written for the professional behavioral scientist. They might be useful in graduate courses of psychophysiology or comparative psychology. It appears that the chapter arrangement in both volumes might have been more systematically organized. The volume edited by Beach has chapter-by-chapter discussion by other participants. The volume edited by Money contains critical comments by Knowlis and Maslow. It is gratifying to know that sexual phenomena are taking their basic place in the full understanding of behavior, both normal and pathological. There are numerous suggestions in these vast implicative data.

Archeology of New York State

A good argument can be made for the view that the careful regional summary is the most generally valuable form of publication in prehistoric archeology. It is often true that the region described is a modern political unit, as is the case with the present volume, rather than a natural area defined by ecological criteria, but this theoretical defect is more than offset by the fact that modern political units are natural regions for the operations of archeologists. William A. Ritchie has devoted 40 years to the excavation and study of the archeological data of New York State and immediately adjacent areas, and his intimate knowledge of the prehistoric cultures and their environment is evident throughout his book, **The Archaeology of New York State** (Natural History Press, Garden City, N.Y., 1965. 379 pp., $12.50).

The information presented includes a substantial amount of previously unpublished material as well as a synthesis and reconsideration of published data and opinions. In addition to describing the bare bones of chronology, assemblages of artifact types, and formal relationships, Ritchie has attempted to draw reasonable inferences on the human activities implied by the artifacts, food debris, settlement patterns, site distributions, and other evidence. The result is a primary reference work for other archeologists and a valuable source of information for those whose interest is less than professional.

Human occupation of the state began perhaps as early as 10,500 B.C., when southern New York was free of glacial ice and the fauna still contained such Pleistocene forms as mastodons, mammoths, and giant beavers. The earliest inhabitants are known only from scattered finds of their characteristic fluted projectile points and, in a few campsites, other forms of chipped stone tools. The fluted point itself clearly links the early New Yorkers with other early inhabitants over much of North America. By about 7000 B.C., a climatic shift to something approaching modern conditions had begun, and by the time of the next well-known cultural phase, the Lamoka, climate and ecology were essentially modern. The Lamoka people were flourishing by 2500 B.C. They were a regionally specialized variant of the hunting, fishing, and gathering cultures characteristic of the eastern United States at that time; their specialization and that of equivalent cultures in other areas suggest a long period of adaptation to the eastern deciduous forests in the poorly known interval that followed the occupation of the fluted point hunters. The Lam-

oka tool inventory included notched spear and dart points, heavy ground stone adzes, and equipment for fishing with hook and line and by netting. The Lamoka culture was replaced by about 2000 B.C. by another group, the Laurentian culture, which was carried into New York by a biologically distinguishable group of people with weapons and tools relating them to culturally similar groups from Lake Superior to Quebec. The Laurentian invasion seems to have been the last major incursion of people. The subsequent story is one of gradual transformation, principally through the addition of elements from the outside: pottery, the bow and arrow, smoking pipes, and, most importantly, maize and other domesticated plants. Although agriculture may have appeared several hundred years earlier, it is not until after A.D. 1000 that sizable villages of gardeners appeared. Village development culminated in the palisaded towns of the historic Iroquois.

Despite Ritchie's best efforts, detailed explanation of the sequences in technological-environmental terms is not possible. We lack anthropologically satisfying explanations for such phenomena as the domination of the Lamoka people by the Laurentian invaders and the slow progress of the pottery-using people during the 2000-year period between 1000 B.C. and A.D. 1000. This unsatisfactory situation is surely not the fault of Ritchie; it is a general condition, and it can be improved only by the development of more adequate anthropological theory.

ALBERT C. SPAULDING
Department of Anthropology, University of Oregon

Techniques of Biological Chemistry

The Structure of Lipids, by Spectroscopic and X-Ray Techniques (Wiley, New York, 1965. 335 pp., $10.50), by D. Chapman, considers selected topics relating to physical properties and to determinations of structure of lipids and their simpler units. The book consists of the following chapters: "Introduction," "Separation techniques," "Ultraviolet spectroscopy," "Infrared and Raman spectroscopy," "Mass spectroscopy," "Nuclear magnetic resonance spectroscopy," "Electron spin resonance spectroscopy," "X-ray diffraction studies," and "Future developments and other techniques." Most of these subjects, which are treated in an authoritative manner and are well documented, are new and powerful means of characterizing lipids. The theoretical bases of the methods employed in modern lipid chemistry are explained, and examples from recent literature are given in most instances. Therefore, the book will provide a very useful orientation in physical methods applicable to study of lipid structures and will be particularly useful to students and to investigators in the field of lipids.

The most valuable chapters are those on infrared spectroscopy, mass spectroscopy, nuclear and electron spin resonance spectroscopy, and x-ray diffraction studies. These subjects, which lie closest to the author's research interest, are better organized and are treated more thoroughly than separation methods and ultraviolet spectroscopy. However, separation methods are less germane to the study of structure of lipids, and ultraviolet spectroscopy is currently a less active field than the remaining subjects.

The grammatical errors scattered throughout the book suggest either hasty writing or uncritical editing. Some of the illustrations in the section on infrared spectroscopy indicate poor art work in copying published figures. With the exception of these features which detract from its overall appearance, the book is well printed and bound and it is pleasing to read.

The title is perhaps a bit misleading, for the book deals largely with the methods of determining structure of lipids, and then with rather simple lipids or their derivatives. Only in the latter part of the eighth chapter is the structure of complex lipids in biological systems treated briefly. Perhaps it is premature to expect a longer treatment of structure of complex lipids. However, two facts—the author is an acknowledged authority on that subject and the title of his book—led me to hope for a more thorough treatment of structure of lipids in biological systems that was given here.

Nevertheless, *The Structure of Lipids* is a valuable and useful book that should be read by all who wish to do serious work with lipids.

RALPH T. HOLMAN
Hormel Institute, University of Minnesota, Austin

Entomology

In 1953 Melville Hatch published the first volume of a series, "The Beetles of the Pacific Northwest," in which he proposed to treat all of the estimated 4000 species of beetles that inhabit the states of Washington, Oregon, Idaho, and the province of British Columbia. This ambitious project has resulted in four volumes, or parts, treating more than 3000 species in 78 families, but so far several of the large phytophagous families have not been treated.

In this new volume, part 4, **Macrodactyles, Palpicornes, and Heteromera** (University of Washington Press, Seattle, 1965. 278 pp., $10), the suborder Diversicornia, begun in part 3, is completed with the series Macrodactyles, which corresponds nearly to the Dryopoidea of other authors. This group embraces several small and fascinating aquatic or semiaquatic families including Limnichidae, Psephenidae, and the Heteroceridae. Included in the suborder Palpicornes are the obscure family Hydraenidae and the familiar Hydrophilidae. Eighteen families are placed in the Heteromera, and most of these are of interest only to the specialist. However, the Meloidae are of some medical importance because of their vesicant powers, and it is probable that more of the beetles which infest stored products belong to the Tenebrionidae than to any other beetle family.

Specialists in the various taxonomic groups may disagree with the composition and disposition of different levels of taxa in this work, which is to be expected in any faunal treatment of this scope. The average person will find the contents of these volumes dull reading, but for the coleopterist, a wealth of information is assembled and presented in concise form. Every effort is made to include as much information as possible about each species, and much biological data as well as old and new distributional records are made available. Bibliographical notations are also given for each species, and an extensive list of pertinent references is provided at the end of each volume.

Keys are included for families, genera, and species, and a generous number of excellent halftone habitus illustrations and line drawings of genitalia contribute to the accuracy of identifications. A notable feature is that the caption of each illustration in-