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.

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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.

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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-