"the old-timers I knew when young (Cope and Marsh had died before) all liked Cope and almost to a man they hated Marsh's guts" (p. 218). That says it all.

The book is nearly free of errors. However, Cope, Marsh, and Leidy were not (as is said on p. 33) "America's first three paleontologists." It is surprising that this is only the second book to be written on the Cope-Marsh war, a subject that would seem to be a natural for a book, or even a movie. The first such book, *The Dinosaur Hunters* by Robert Plate (McKay, 1964), is not listed in the author's bibliography.

The Fossil Feud will be of special interest to vertebrate paleontologists and vertebrate zoologists. It will also be of interest to more general scientists and historians, especially if they will merely scan part 2 to catch some of the more lively vituperation of Cope and Marsh. The chapter on Ballou is a noteworthy contribution, for it is mainly newly gathered material. In summary, Shor has written a helpful and interesting account of a fascinating episode in the history of science.

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Carbohydrates and Lipids

Effects of Carbohydrates on Lipid Metabolism. I. MACDONALD, Ed. Karger, Basel, 1973 (U.S. distributor, Phiebig, White Plains, N.Y.). x, 310 pp., illus. $52.35. Progress in Biochemical Pharmacology.

One of the most important accomplishments of the research effort in atherosclerosis during the last 30 years has been to provide some understanding of the role played by plasma lipids in this disease. Until recently, because of the apparent role of cholesterol in the etiology of the disease, most of the lipid work concentrated on cholesterol metabolism and its regulation.

The emphasis began to change in the early 1960's when Ahrens and his co-workers described the entity of carbohydrate-induced hypertriglyceridemia. Hypertriglyceridemias of this type are endogenous in that the triglycerides are derived through biosynthesis rather than from dietary fats. Subsequently, evidence began to appear that certain forms of endogenous hypertriglyceridemia may, like hypercholesterolemia, predispose to atherosclerosis. Acetyl coenzyme A and glycerol 3-phosphate, the building blocks used for triglyceride biosynthesis, are derived in these situations almost entirely from dietary carbohydrates. Taken together, these findings have led to the conclusion that some cases of hyperlipidemia result from excessive dietary carbohydrate intake rather than fat intake.

A second impetus for studies of carbohydrate effects on lipid metabolism was the finding that certain dietary carbohydrates are more hypertriglyceridemic than others. Sucrose, because of its fructose content, appears to be more hypertriglyceridemic than starch. This has led to the suggestion that the Western diet, with its relatively high content of refined cane sugar, may contribute to atherogenesis. These controversial, important issues are the subjects of the present book.

The book consists of eight chapters. It begins with two biochemically oriented chapters that cover the enzymology of carbohydrate utilization and lipid biosynthesis. Both are comprehensive within narrowly selected subject areas. The lipid chapter deals primarily with the phosphoglyceride and triglyceride biosynthetic pathways, whereas the carbohydrate chapter is confined to hexose, xylitol, and sorbitol degradation. These chapters are well organized and filled with useful illustrative material, including exhaustive lists of references. This introductory material is followed by six chapters that are more physiologically and clinically oriented. Topics covered include plasma triglyceride turnover, adipose tissue metabolism, hepatic lipid biosynthesis, and diabetes mellitus. These chapters are brief and readable and succeed admirably in presenting a thorough review of each subject. The available information, often including methodology, is evaluated critically. Interesting hypotheses and speculations are presented in many cases, making these sections more than simple repositories of factual information. A number of the chapters conclude by giving the author's views on the current status of the area, a practice that is helpful because of the large mass of sometimes conflicting data. In no case is the interpretation one-sided or dogmatic. This objective treatment greatly enhances the value of the book.

Anyone concerned with lipid metabolism, carbohydrate metabolism, hyperlipidemia, or atherosclerosis, at either the basic or the clinical level, should find this book valuable. Moreover, many biological scientists whose work is not primarily in these areas but who are concerned with carbohydrate or lipid enzymology, adipose tissue, obesity, diabetes, or human nutrition may find it useful to peruse one or more of the chapters.

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Reproductive Biology

Reproduction of Marine Invertebrates. Vol. 1, Acoelomate and Pseudocoelomate Metazoans. ARTHUR C. GIESE and JOHN S. PEARSE, Eds. Academic Press, New York, 1974. xii, 546 pp., illus. $38.

Marine invertebrates have served traditionally for examining many of the critical problems in reproductive biology, and there is an enormous literature, spanning a century, on the morphological, physiological, biochemical, and ecological aspects of their reproduction. Yet, until now no attempt has been made to bring together and integrate the information that has accumulated. Arthur Giese and John Pearse have undertaken this task in designing and editing the *Reproduction of Marine Invertebrates*. After years of preparation, volume 1 of this at least seven-volume, multiauthored treatise has appeared. If this initial segment is indicative of the quality to be maintained throughout the series, they will have succeeded amply in providing a valuable compendium of information, significant discussions of the status of knowledge about reproduction in each phylum, and elucidation of fundamental problems concerning reproduction in general.

According to the editors the first volumes will survey all groups of free-living marine invertebrates for the occurrence of and factors that influence asexual and sexual reproduction. Each chapter is being contributed by an authority on the taxon in question, and care is being taken to ensure that both "major" and "minor" phyla are included. One pleasant result of this design is that, regardless of the wide differences in the size of the various groups and the often disparate amounts of knowledge we have concerning their reproduction, it exposes both the information available on and the potential interest to biologists of each phylum (or in the case of exceptionally large phyla, each class). The editors have