reports that polychlorinated biphenyls were undetected in five antarctic penguin eggs but were found in Panamanian pelican eggs, and reports DDT: PCB ratios on the order of 1 : 1 in San Francisco Bay. The biological significance of these widespread but little-understood industrial pollutants is now a research challenge of the first order. Fallout phenomena involving lead were brought up only incidentally at the Rochester meeting, and the effects of other chemicals such as sulfur dioxide omitted. There is an implication here that, with the DDT question settled, attention of the scientific community will turn to mounting fallout problems of a quite different nature.

Organizers of the Rochester conference deliberately sought "to promote an exchange of views between experts in generally antagonistic specialties." They got it in a spirited debate between Robinson of Shell and Risebrough of Berkeley on the merits of D. A. Ratcliffe's explanation for the decline of raptor populations in Britain. This argument has subsequently been settled (*Science* **162**, 271–73 [1968] and **165**, 199–200 [1969]; *Nature* **224**, 47–48 [1969]) in Ratcliffe's favor.

Biological Effects of Pesticides is, despite its title, a fairly broad summary of research in pesticide ecology. *Chemical Fallout* samples an even larger field. Taken together, they provide excellent reference tools for the scientist and a helpful introduction to students seeking to understand the new hazards appearing in our environment.

JOSEPH J. HICKEY
Department of Wildlife Ecology, University of Wisconsin, Madison
SUSAN HICKEY
Bureau of Research, Wisconsin Department of Natural Resources, Madison

A Science as It Was and Is

Sourcebook for Petroleum Geology. Semicentennial Commemorative Volume. ROBERT H. DOTT, SR., and MERRILL J. REYNOLDS. American Association of Petroleum Geologists, Tulsa, Okla., 1969. viii + 472 pp. $18. AAPG Memoir 5.

This book was conceived as the second in a series of three books to commemorate the 50th anniversary of the founding of the American Association of Petroleum Geologists in 1917. The first of the series, *Fluids in Subsurface Environments* (AAPG Memoir 4), a symposium edited by Addison Young and J. E. Galley, was published in 1965; the third, a history of petroleum geology, is yet to be published.

The purpose of the sourcebook is stated to be "to present by quotations the basic concepts of [petroleum geology] and to trace the evolution of thought from the earliest rudimentary pronouncements to the sophisticated hypotheses of the third quarter of the twentieth century." Dott and Reynolds have succeeded remarkably well; in addition, they have revealed the give and take of the literature by including quotations in pairs showing both sides of a discussion, with some commentary to clarify. These quotations are well selected, and there is a minimum of extraneous or unnecessary material.

In part 1 (Genesis of Petroleum), subject matter ranges from hypotheses for an inorganic origin for petroleum, including a summary of the geologic setting of virtually all occurrences of oil in igneous and metamorphic rocks, to the more generally accepted hypotheses of organic transformation. The editors have rightly emphasized the organic geochemical aspects of the problems, and their care in preparation is evident in their inclusion of an appendix of chemical terms for nonchemists. The only serious omission in the section is Cooper and Bray's fine paper on the "Postulated role of fatty acids in the formation of petroleum," which should have found its place in the discussion of odd-carbon-number preference in extracts of Recent sediments.

Part 2 of the book (Secondary Migration and Accumulation of Petroleum) shows similar care in the selection of subject matter and references. Discussions range from the nature of the pore network of reservoir rocks to hydrodynamic entrapment, with every conceivable aspect of the subject systematically covered.

Why would one want to buy this massive literature summary? In addition to its value as a historical document, the book will be a useful teaching tool. Its bibliographic wealth, excellent choice of material, and organization will render it a fine adjunct to a course in petroleum geology or geochemistry. It will not replace factual material, because it draws its quotations primarily from authors' conclusions, but it does an admirable job of putting this material into perspective. Specialists in various phases of petroleum geology should read this book to gain a perspective of their own specialty—and to learn that other specialties do impinge on their own. For the nonspecialist, a thorough reading of this book will yield a comprehensive knowledge of petroleum geology and geochemistry as it exists today, and how it got to be where it is, together with a revealing view of the numerous "sacred cows" of the science.

When one reads scientific literature either at random or chronologically, general trends are not always obvious. This collection of quotations clearly reveals the cyclicity of ideas that has characterized progress in the petroleum sciences. I was also struck by the frequent recurrence of the phrase "The conclusion that petroleum is . . . is inescapable."

WALTER E. REED
Department of Geology and Geophysics, University of California, Berkeley

Inositol Chemistry

Cyclitols and Phosphoinositides. Chemistry, Metabolism, and Function. A conference, New York, Sept. 1968. FRANK EISENBERG, JR., Ed. New York Academy of Sciences, New York, 1969. Illus. Paper, $18.50. Annals of the New York Academy of Sciences, vol. 165, art. 2, pp. 509–819.

This collection of 27 papers, a mixture of short reviews and brief research reports, provides in one handy volume the most up-to-date treatment of the subject that is available. Anyone who has not followed the developments in inositol chemistry and metabolism will probably be amazed to discover the great diversity of structural and functional roles in which this class of compounds has become implicated. To this reviewer, who has been close to the subject, the collection provides an interesting insight into the latest thinking of other workers in the field.

A large part of the collection deals with the polyphosphoinositides, acidic phospholipids first discovered in brain tissue but now known to occur in small amounts in many animal tissues and even in yeast. This family of phosphatidylmyoinositol phosphates is of particular interest because of the relatively rapid metabolism of the monoesterified phosphate groups. Considerable knowledge has been gained about the enzymes that are involved in the formation and breakdown of these lipids, and questions are being asked as to the metabolic significance of these reac-