tools made on Levallois flakes indiscriminately with unretouched pieces (Nos. 79, 138, 157). Several further, though minor, points of irritation exist. Wymer perpetuates the fallacy that the categories "flakes with faceted butts" and "Levallois flakes" are synonymous and curiously uses the term "reverse" to mean dorsal surface, rather than ventral surface as is customary elsewhere. Figures are not located in order in the text. Given small samples, there are (as Wymer recognizes, p. 378) difficulties in distinguishing Middle Acheulean collections from Late Middle Acheulean collections by the criteria he proposes.

Other flaws are major. Wymer discusses relationships between the Boyn Hill and Lynch Hill terraces in some detail, using the former designation for the highest "terrace" at Maidenhead and the latter for a depositional phase on a lower bench (p. 211). Basing his decision on the occurrence of "more evolved" artifacts (of Late Middle Acheulean type) in the Boyn Hill "terrace" and of less evolved tools in the lower terrace, he concludes that the lower terrace is actually the older (pp. 243, 244, 392). Admittedly, a decision about the chronological relationships of these "terraces" cannot yet be made on geological grounds because the necessary field geology has not been done. However, no proposal that the relative ages of these formations be decided solely on the basis of contained Paleolithic artifacts is legitimate. Another serious defect is Wymer's readiness to accept minimal evidence, sometimes of a very unreliable kind, in tracing the geographic and temporal range of industrial complexes: the so-called Levalloisian industry is postulated to exist between Lechlade and Dorchester from the end of the Gipping into the Weichselian glaciation on the basis of two Levallois flakes, one a surface find (p. 87) and the other with "no exact provenance" (p. 95).

One is struck by the inadequacy of past geological and prehistoric investigations of Lower Paleolithic occurrences in this critical area. Wymer deserves to be commended both for his own contribution to the study of individual localities and for having produced this major attempt at synthesis in a region with such a highly complex and difficult depositional history.

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On Pollution Problems

Advances in Environmental Sciences. Vol. 1. JAMES N. PITTS, JR., and ROBERT L. METCALF, Eds. Wiley-Interscience, New York, 1969. viii, 358 pp., illus. $15.95.

This book is intended to be the first in a series of multiauthored books concerned with the study of the quality of the environment and with the technology of its conservation. The series is to serve as an aid to the established professional and also to encourage students to take up careers in this field.

This volume opens with a chapter entitled "Outline of environmental sciences." To the student who might be encouraged to enter the field, this review will probably be the most challenging and interesting in the book. In fact, environmental science and technology are today so fragmented that this chapter will be of value to most professionals in the field who are engaged in a very narrow specialty.

This chapter is followed by one on the legal aspects of pollution abatement and control at the federal level. It concludes with a discussion of the author's ideas with regard to the government's future role.

The third chapter deals with water pollution control and management. Like the first, it covers a tremendous subject in a few pages (30), but provides a readable review for someone who would like to see an overall picture of this important subject.

Three chapters scattered through the remainder of the book deal with the chemistry of air pollution. They will be of use primarily to the specialist, although they may also be of interest to graduate students in chemistry who are considering a career in air pollution research or control. Considerable knowledge of chemical kinetics and photochemistry is required to follow the discussion and arguments presented. In spite of these limitations, the three chapters should prove to be very valuable to chemists investigating photochemical smog, since they bring together information with regard to techniques and results which has been scattered through a large number of journals of various types.

Other chapters cover such subjects as biodegradable detergents, aeroallergens, and the catalytic removal of potential air pollutants from automobile exhaust. All of these are readily understandable to the generally well-educated reader.

For the most part the chapters are excellent, though not comprehensive, reviews rather than "advances." Perhaps this is appropriate for the first volume of such a series; however, it might be hoped that future volumes will be more concerned with recent developments. The series seems to be off to a good start and should fulfill the purposes described by the editors.

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The Growth of a Science

The Chemistry of Life. Eight Lectures on the History of Biochemistry. JOSEPH NEEDHAM, Ed. Cambridge University Press, New York, 1970. xxxii, 216 pp. + plates. $9.50.

This book is the outcome of a series of lectures delivered by biochemists of the University of Cambridge between 1958 and 1961, under the auspices of the history of science department. Joseph Needham has now collected and edited them, with an extensive introduction dealing with what might be called the prehistory of biochemistry, from the earliest times to about 1800. As might be expected, there is much here of Chinese as well as of Western thought and experiment, and Needham's extraordinary range of learning enables him to note many relations that few others could have perceived.

The chapters that follow are diverse in scope and approach. Robert Hill considers the growth of our knowledge of photosynthesis, dwelling chiefly on early work and speculation, before Lavoisier and Priestley. The vast and complex developments that have occurred since are covered in less than four pages, in which it is impossible to give more than hints of what actually occurred. Malcolm Dixon considers the history of enzymes and of biological oxidations; he provides a useful introduction which should be helpful to students of biochemistry, and others, in providing some perspective on the development of this central area of biochemistry. As Dixon notes, David Keilin's posthumous *History of Cell Respiration and Cytochrome* (1966) treats one of the two topics considered here (biological oxidations) in much greater depth.

E. F. Gale presents the development of microbiology in 22 pages. Inevitably this brief sketch of a vast field covers