and controlling it. The nature of air pollution chemistry requires an almost unique analytical approach that differs in both concept and execution from classical techniques. As a result, many techniques have been evolved, but this latest contribution by Morris Jacobs is the first single, comprehensive volume treating only the analytical aspects of air pollution chemistry.

The range of subjects discussed is quite extensive and would cover almost any conceivable situation likely to be encountered by an industrial or municipal air pollution control officer. The detailed treatment of each subject will allow those unfamiliar with chemical analysis to apply the individual methods. The book will be of value to chemists already familiar with the field, but to them the details may seem overpowering at times. This excessive detail is relieved at frequent intervals by discussions of other aspects of the problem such as sampling, data treatment, and physical laws. In addition, there is sufficient theoretical material to allow an easy understanding of the methods involved. This combination of theory and detail is the book's greatest value and will be the feature with the widest appeal. Unfortunately the air pollution problem has grown faster than our inclination to measure and control it. The methods for measurement and control are available, but with the exception of a few of the more enlightened or harassed communities, there has been little application of this knowledge to the actual problem. Most control is still supervised by agencies which have had little experience except in smoke inspection. These agencies are often understaffed with personnel untrained in the pertinent fields; a single volume such as this one can be an invaluable reference source for use in planning and executing control programs.

The materials covered are, with one exception, the usual types of pollutants produced in urban areas. The exception is an excellent chapter on radiochemical determinations. Radioactive air contaminants are a disputed component of the atmosphere, but there is little chance that the increased use of nuclear processes will decrease the amounts present in the atmosphere. It is reassuring to find that this contamination is now considered by an authority such as Jacobs to be as significant as soot, dust, and noxious vapors. To discuss analytical radiochemistry in a single chapter without some omissions is impossible, but his treatment is a more than adequate summary of most of the present techniques.

One chapter detracts from the book's excellent coverage; compared with the other material, the treatment afforded the analysis of the exhaust gas from automobiles seems out of place. Without doubt the exhaust from motor vehicles is an extremely important source of pollution, and for this reason great emphasis should be placed on the detection and determination of this substance or its reaction products as they appear in the atmosphere. Unfortunately, Jacobs emphasizes the analysis of the gases *before* emission into the atmosphere. Unless some radical change occurs in the internal combustion engine, there is little need for pursuing this aspect of the problem.

In general, the book is well arranged. The development of the material proceeds logically from an initial chapter concerning sampling to a final, brief chapter that gives practical discussion of monitoring instruments. Jacobs is perhaps quite familiar with the budgetary problems of most air pollution control agencies and has kindly omitted mention of most of the more exotic and expensive instrumental techniques.

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Medical Physics. vol. 3. Otto Glasser, Ed. Year Book Publishers, Chicago, Ill., 1960 lx + 754 pp. Illus. $25.

Volumes 1 and 2 of *Medical Physics* have well established their value as outstanding standard works in the fields of medicophysics and biophysics. Volume 3, with contributions by 181 experts and pioneers in the various fields, carries on this reputation in an impressive way. Volume 3 does not purely augment earlier topics; it presents recent developments and progress, but it also covers many new subjects which have become of importance and interest in recent years: aviation medicine, the biological hazards of space radiation, fluorescence microscopy, fluorescopic image amplification, grid therapy and grid protection, the ultraviolet color-translating microscope, and modern microradiography, to mention a few.

The presentation throughout makes clear, stimulating reading. The references are well selected, the volume is arranged alphabetically by title of the topics, and a compendious name index provides a quick reference index for the three volumes. It is impossible to review in detail the 177 chapters of the volume and it is not possible to select the one or the other contribution for detailed comment since every chapter holds its *niveau*. Otto Glasser has to be congratulated for being able to assure the collaboration of so many recognized experts in the different fields. There is no doubt that the new volume will be a welcome addition to the existing medicophysical literature.

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Encyclopaedia Zoologica Illustrated in Colours. vol. 4, *Arthropoda to Protozoa Exclusive of Insecta, Echinodermata, and Mollusca*. Y. K. Okada *et al.* Hokuryu-kan Publishing Co., Tokyo, Japan, 1960. 308 pp. $25.

This handsome volume, although written entirely in the Japanese language except for the scientific names of the animals, will be of widespread interest to naturalists because it portrays in color a significant representation of the Japanese species of the animal groups covered: the Arthropoda (exclusive of insects), Annelida, Nemathelminthes, Trochelminthes, Nemertini, Platyhelminthes, Ctenaria, Coelenterata, Porifera, Mesozoa, and Protozoa. The first 45 pages, devoted to brief accounts of the morphology and classification of the phyla included, are well illustrated with black-and-white diagrams. This section is followed by 123 plates of representative Japanese species of each phylum; mostly in color, and including marine, fresh-water, terrestrial, and parasitic examples.

The color reproduction is excellent on the whole and makes the American reader wish that a comparable guide to our invertebrate fauna were available. Especially noteworthy are the illustrations of arachnids and crustaceans. Also of interest are the colored plates showing some of the more remarkable members of the Japanese fauna: the platyctenid ctenophores; the peculiar genera of stauromedusans; the giant hydroid, *Branchiocerianthus imperator*; the ascothoracican cirripedes; the myzostomids; and the garishly colored polyclads and nemertines.

This volume will be of value to professional zoologists who wish to become acquainted with Japanese invertebrates