

tinue to promote trade relations with the free world and particularly with the underdeveloped countries in Asia, the Middle East, and Africa; that Peking's foreign aid programs to countries in the Asian-African area will be expanded in the years immediately ahead; and that the psychological impact of Communist China's economic development will be widely felt throughout the underdeveloped areas of the world.

ROBERT C. NORTH

*Department of Political Science,  
Stanford University*

**Geochemical Methods of Prospecting and Exploration for Petroleum and Natural Gas.** A. A. Kartsev, Z. A. Tabasarskii, M. I. Subbota, and G. A. Mogilevskii. English translation. Paul A. Witherspoon and William D. Romey, Eds. University of California Press, Berkeley, 1959. xxiii + 349 pp. Illus. \$12.50.

The Russian edition of this book was published in 1954 as a text for students and also as a practical guide for petroleum geologists. In addition to the general reviews on the geochemistry of petroleum formations and natural gas, the following exploration techniques are outlined in considerable detail: gas surveys, core-gas surveys, oil and gas logging, bitumen and bitumen-luminescence methods, hydrochemical techniques, water-gas and soil-salt surveys, and microbiological methods. The oxidation-reduction technique and geobotanical prospecting methods are discussed in passing.

The editors of this English translation are to be congratulated for making this work available to those who do not read Russian. The translation is excellent, and the reader is assisted by occasional editorial footnotes.

Fundamentally, geochemical prospecting represents an attempt to obtain, directly or indirectly, criteria for recognizing oil and gas fields. In view of the necessity for basing such criteria upon the geochemistry of petroleum and gas, I was disappointed to find many misstatements, contradictions, and misconceptions in the very first chapter. This shortcoming is balanced, however, by the excellent descriptions of stationary and portable equipment for gas analysis, by a particularly good and objective discussion of bitumens that I recommend to geologists working

with sedimentary deposits, and by an interesting description of microbiological exploration techniques.

The theoretical discussions of a number of techniques leave much to be desired. For example, decreases in redox potentials are attributed to the presence of hydrocarbons, but the fact that hydrocarbons are not ionized and cannot affect these potentials is overlooked.

I cannot help but wonder at the authors' obsession with regard to priority for the discovery, development, and use of many of the techniques described. The following statement illustrates this point: "The Americans unsuccessfully tried to appropriate the development and practical application of the [gas logging] method for themselves, ignoring the indisputable priority of Soviet investigators in this field." Such chauvinistic inserts add nothing to a scientific treatise and might not have been made if the authors had consulted more of the non-Russian literature.

Although there are shortcomings in the theoretical aspects of the book, the authors have carefully evaluated many of the parameters that can influence interpretation of experimental data; in one case 18 such factors are listed. Obviously, however, the ultimate value of these methods depends upon their usefulness in locating oil and gas, theoretical interpretations notwithstanding. In this respect, a number of examples are cited in which microbiological techniques have led to the discovery of oil at a depth of 1000 meters, or in which geochemical anomalies have been confirmed by later drilling. These are impressive results.

IRVING A. BREGER

*U.S. Geological Survey,  
Washington, D.C.*

**Index of American Palms.** Plates. B. E. Dahlgren. Field Museum of Natural History, Botanical Series, volume 14. Chicago Natural History Museum, Chicago, 1959. i + 412 pp. Illus. \$10.

The 412 plates that comprise this volume supplement the *Index of Palms* text published in 1936. The volume includes photographs of types and other historic specimens of palms made under the direction of J. Francis Macbride prior to 1940 at several European her-

baria—Copenhagen, Geneva, Herrenhausen (Hannover), Munich, Paris, and Vienna—and at the Museu Paraense Emilio Goeldi, in Brazil.

This is not a picture album showing photogenic palm trees but a collection of photographs of herbarium specimens, with the palm material pressed and dried, and reproductions of about 50 hitherto unpublished plates by F. M. Liebmann, a Danish student of palms who, a century ago, was professor of botany and director of the botanical garden at Copenhagen.

In general, the quality of the photographs and the offset printing is excellent, and the pictures can be considerably magnified to show the details of plant parts. Unfortunately, in several cases, focusing on the slightly raised plant parts resulted in a loss of sharpness, and the label data were lost. Within the usual limitations imposed when illustrations are substituted for the actual specimens, these photographs will be useful to taxonomists for reference purposes.

The earlier work in the same series, *Index of American Palms* (Publication 355, 1936) is out of print. It included a complete index of American palm genera and species, and lists of data—such as taxonomic literature, vernacular names, and geographic occurrence (prepared by B. E. Dahlgren), and a list of fossil palms (by A. C. Noé).

Dahlgren is now the dean of American palm specialists, and although for more than a decade he has been curator emeritus at the Chicago Museum of Natural History (formerly the Field Museum), he continues his studies in the palm family.

VELVA E. RUDD

*U.S. National Museum,  
Smithsonian Institution*

**The Amphetamines.** Their actions and uses. Chauncey W. Leake. Thomas, Springfield, Ill., 1958. xv + 167 pp. \$4.50.

This book might be called a gem monograph. It is an easily read account of the amphetamines, written for the general reader as well as for the physician. Therapeutic details do not obtrude on the historical and philosophical story, which Leake has written in his fluent style.

After a charming dedication to Gordon Alles, the book describes the three