

make innovations of great practical importance.

An entire section of the *History of Metallography* is devoted to the work of Henry Clifton Sorby. Sorby's great contributions to our knowledge of the structure of metals were the result of accurate observations made possible by his superior technique rather than by philosophical speculation. Sorby not only correlated the properties of iron and steel to changes in microstructure, but he showed that metals are undoubtedly crystalline and effectively disposed of the myth that metals "crystallize" under shock or vibration.

The final section of the book covers the advances in chemistry and physics in the 19th century and the work of some of the more influential metallurgists, such as Tschernoff in Russia, Osmond in France, Martens in Germany, and Howe in the United States. Smith concludes his history with a brief outline of developments in metallography after 1890, including x-ray diffraction studies and the use of the electron microscope. He points out that the optical microscope is still an important research tool to the metallurgist because the scale of aggregation revealed to the microscope can no more be ignored than can structure on any other scale.

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**A Review of the African Species of the Genus *Cheumatopsyche* (Trichoptera, Hydropsychidae), with Special Reference to Those of Southern Africa, and the Ephemeroptera Types of Species Described by A. E. Eaton, R. McLachlan and F. Walker, with Particular Reference to those in the British Museum (Natural History).** *Bulletin, Entomology*, vol. 9, No. 4, pp. 253-267, pp. 269-318. D. E. Kimmins. British Museum (Natural History), London, 1960. Illus. 20s.

These two important papers will be of real value to specialists concerned with these groups. The revision of *Cheumatopsyche*, with special reference to Southern Africa, presents a key and citations, distribution, and figures of the genitalia for 15 species. The list of types of Ephemeroptera, with particular reference to those in the British Museum (Natural History), includes

notes on over 200 lectotypes and holotypes, plus a few neotypes, syntypes, and topotypes. Sixty-five original drawings of genitalia and references to similar drawings published elsewhere cover practically all of the species mentioned.

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**American Men of Science.** A biographical directory. *The Physical and Biological Sciences*. A-E and F-K volumes. Jacques Cattell, Ed. Cattell Press, Tempe, Ariz., ed. 10, 1960. 1126 pp. and 1158 pp. \$25 each.

Aside from the one-third increase in the number of scientists listed, the only major change in the latest edition of this biographical directory is the combination of the previously separate physical sciences and biological sciences volumes into one alphabetical listing which will comprise four volumes. Thus the editor of *Science* is no longer classified as a biologist but as a man the first letter of whose last name lies between A and E. The advantage of an alphabetical listing is that the reader no longer has to guess, when looking up workers in biochemistry, biophysics, micropaleontology, and other border disciplines, where the editors of the directory have decided to put the particular objects of his search. The disadvantage is that if the reader's interest lies only in one specialty, then he might be able to save money by purchasing only a physical sciences listing or a biological sciences listing.

Some saving, however, is still possible in the new edition. The physical and biological sciences remain separated from the social and behavioral sciences. In the 9th edition the social and behavioral sciences constituted the third volume and in the 10th edition they are to make up a fifth volume. But in this separation there are again problems of classification and, in fact, many men formerly located in the social and behavioral sciences volume have now taken up residence in the physical and biological sciences listing. In going from the 9th to the 10th edition, we learn, for example, not only that Neil Bartlett, a psychologist, has moved from Hobart College, Geneva, N.Y., to the University of Arizona, but also that he has moved from volume 3 to volume 1.

As in the previous editions of this

reference work, the biographies contain useful information about each subject's professional career and fields of professional competence. The presentation is again compact and readable. The first two volumes are now available, and the editor has announced that the remaining volumes will be published at intervals of no longer than eight months. When completed the listing will contain around 125,000 names, and it will be time to begin the next edition.—J.T.

## Miscellaneous Publications

(Inquiries concerning these publications should be addressed not to Science, but to the publisher or agency sponsoring the publication)

**Aviation Cartography.** A historico-bibliographic study of aeronautical charts. Walter W. Ristow. Map Division, Library of Congress, Washington, D.C., ed. 2., 1960. 245 pp. \$1.75.

**Bernice P. Bishop Museum Annual Report for 1959.** "Prelude to a plan." Alexander Spoehr. Bishop Museum Press, Honolulu, Hawaii, 1960. 31 pp.

**Differential Diagnosis of Yaws.** C. J. Hackett and L. J. A. Loewenthal. World Health Organization, Geneva, Switzerland, 1960. 88 pp. \$3.25. This volume is intended to compliment the earlier monograph by Hackett [*An International Nomenclature of Yaws Lesions* (1957)].

**Educators Guide to Free Science Materials.** Mary Horkheimer Saterstrom, Ed. Educators Progress Service, Randolph, Wis., 1960. 317 pp. \$6.25. The guide, designed to identify existing free science materials, has units prepared by James R. Wailes, Harry K. Wong, William R. Ladson, Nellie R. McCool, and Steve R. Rasmussen. John W. Renner served as unit coordinator.

**Research in School and College Personnel Services.** Paul MacMinn, Carroll H. Miller, and Frank E. Wellman. U.S. Office of Education, Washington, D.C., 1960 (order from Supt. of Documents, GPO, Washington 25). 142 pp. \$0.55. Summaries of unpublished studies, September 1956-September 1958.

**Studies on Calcium and Strontium-90 Metabolism in Rats.** Fredrik C. Gran. Oslo Univ. Press, Oslo, Norway, 1960. 109 pp.

**Teaching about the United Nations in the United States.** 1956-1959 report. U.S. Office of Education, Washington, D.C., 1960 (order from Supt. of Documents, GPO, Washington 25). 96 pp. \$0.45.

**U.S. Foreign Policy in a Changing World.** Oliver D. Knauth. National Planning Assoc., Washington, D.C., 1960. 76 pp. \$1.50. Knauth, former member of the staff of the Office of War Information and political analyst with OSS, surveys the changes the 20th century has made in the traditional bases of national power (military strength, geographic location, and size of population) and points out that the altered line-up of power factors calls for new and changed foreign policies.