

products of major metals; metallurgical by-products and co-products of the minor metals; milling by-products and co-products of the minor metals; individually mined minor metals; and minor metals without geologic limitations.

The chapter on "Supply conditions" shows a real understanding of the problems of minor metals, although it would have been still better if specific examples had been used to show how intertwined the milling and metallurgical recoveries of the minor metals are with the mixed mineral ores. The nature of these problems explains why many large firms already in nonferrous major metals or chemicals diversify into minor metals, and, conversely, why few new firms have successfully broken into the business. Other chapters covering "Location and scale of production," "Firms producing minor metals," "Sources and competition," and "strength of competition," supported by 20 tables, seven illustrations, and four appendices, round out the book.

The volume has excellent typography and editing. (The only error I found was the transposition of tables 1 and 2 on pp. 4 and 5.) Although in some places (pp. 13-31 in particular) the book reads like the graduate thesis it was, it is otherwise professional in every sense and will make rewarding reading not only for mineral and metal economists but also for marketing and planning people and, of course, exploration geologists.

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Articles in Botany

Volume 2 of **Advances in Botanical Research** (Academic Press, New York, 1965. 394 pp., illus. \$12), edited by R. D. Preston, continues a series of topical review papers generous in length and in number and quality of illustrations. It contains six articles: "Some phyletic implications of flagellar structure in plants" by Irene Manton; "Fundamental problems in numerical taxonomy" by W. T. Williams and M. B. Dale; "Ultrastructure of the wall in growing cells and its relation to the direction of growth" by P. A. Roelofsen; "The protein component of primary cell walls" by D. T. A. Lampport;

"Embryology in relation to physiology and genetics" by P. Maheshwari and N. S. Rangaswamy; and "The soft rot fungi: their mode of action and significance in the degradation of wood" by John Levy.

These articles will be of interest and importance to workers in the pertinent areas; the nature of the coverage of course varies greatly among the topics and authors. Roelofsen's and Maheshwari and Rangaswamy's extensive articles survey in detail rather large bodies of literature, the former bringing the author's point of view up to date since the appearance of his 1959 monograph on the same subject, the latter reviewing in historical perspective an entire area, but with emphasis on the tissue-culture approach of the last couple of decades. Lampport's article on cell-wall protein is long not because of extensiveness of its subject but through inclusion of much previously unpublished tabular and graphic material, and liberal indulgence in discourse and speculation (including passages and quotations justifying the merits of speculation!). Although the paper on numerical taxonomy by Williams and Dale refers to the needs of "the newcomer to this field" in its introduction, for this reader as a newcomer the article gives, to transpose the words of Preston's description from the preface, a somewhat bewildering look to this new field; the writing seems to be directed to a class of specialists that in my guess will include but few taxonomists, important though the principles discussed no doubt are to taxonomy.

The book contains at least its share of errors, including a conspicuously garbled address for Lampport on the page before the preface, and the delightfully suggestive "Unexpected leaves" appearing prominently in Table X on page 177.

PETER M. RAY

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New Books

Biological and Medical Sciences

Advances in Comparative Physiology and Biochemistry. vol. 2. O. Lowenstein, Ed. Academic Press, New York, 1966. 415 pp. Illus. \$14.50. Four papers: "Comparative electrophysiology of excitable membranes" by Harry Grundfest; "The comparative physiology of invertebrate cen-

tral neurons" by Donald Kennedy; "Physiology and biochemistry of *Knallgasbacteria*" by H. G. Schlegel; and "Comparative physiology of marsupials" by H. Waring, R. J. Moir, and C. H. Tyndale-Biscoe.

Advances in Immunology. vol. 5. F. J. Dixon, Jr., and J. H. Humphrey, Eds. Academic Press, New York, 1966. 455 pp. Illus. \$16. Five papers: "Natural antibodies and the immune response" by Stephen V. Boyden; "Immunological studies with synthetic polypeptides" by Michael Sela; "Experimental allergic encephalomyelitis and autoimmune disease" by Philip Y. Paterson; "The immunology of insulin" by C. G. Pope; and "Tissue-specific antigens" by D. C. Dumonde.

Advances in Protein Chemistry. vol. 21. C. B. Anfinsen, Jr., M. L. Anson, John T. Edsall, and Frederic M. Richards, Eds. Academic Press, New York, 1966. 461 pp. Illus. \$16.75. Four papers: "Naturally occurring peptides" by S. G. Waley; "Cytochrome c" by E. Margoliash and A. Schejter; "Hydrogen exchange in proteins" by Aase Hvidt and Sigurd O. Nielsen; and "Selenium derivatives in proteins" by J. Jáuregui-Adell.

Advances in Teratology. vol. 1. D. H. M. Woollam, Ed. Logos Press, London; Academic Press, New York, 1966. 297 pp. Illus. \$12.50. Seven papers: "The causes of Down's syndrome" by L. S. Penrose; "X-chromosome inactivation in mammals" by Mary F. Lyon; "Recent advances in the viral aetiology of congenital anomalies" by Gordon C. Brown; "Immunologic aspects of developmental biology" by Robert L. Brent; "The teratogenic effects of azo dyes" by F. Beck and J. B. Lloyd; "Effects of ionizing radiations on mammalian development" by Samuel P. Hicks and Constance J. D'Amato; and "Drugs and human malformations" by R. W. Smithells.

Analysis of Normal and Abnormal Cell Growth: Model-System Formulations and Analog Computer Studies. Ferdinand Heinmets. Plenum Press, New York, 1966. 302 pp. Illus. \$12.50.

Animal Behaviour. A synthesis of ethology and comparative psychology. Robert A. Hinde. McGraw-Hill, New York, 1966. 544 pp. Illus. \$10.50.

Animal Nursing. vols. 1 and 2. Bruce V. Jones, Ed. Pergamon, New York, 1966. vol. 1, 304 pp.; vol. 2, 288 pp. Illus. Paper, \$7.50.

Atlas Stéréotaxique du Diencéphale du Rat Blanc. D. Albe-Fessard, F. Stutinsky, and S. Libouban. Editions du Centre National de la Recherche Scientifique, Paris, 1966. 93 pp. Plates. F. 50.

Behavior Therapy Techniques: A Guide to the Treatment of Neuroses. Joseph Wolpe and Arnold A. Lazarus. Pergamon, New York, 1966. 208 pp. Illus. Paper, \$2.75. The Commonwealth and International Library.

Beryllium: Its Industrial Hygiene Aspects. Herbert E. Stokinger, Ed. Academic Press, New York, 1966. 410 pp. Illus. \$11.60. Contributors are A. J. Breslin, Joseph M. DeNardi, Robert G. Keenan, L. E. Krejci, Andrew L. Reeves, L. D. Scheel, Thomas L. Shipman, Herbert E.

(Continued on page 1681)

NEW BOOKS

(Continued from page 1632)

Stokinger, Edward C. J. Urban, Howard S. Van Ordstrand, Arthur J. Vorwald, and John F. Zielinski.

Catecholamines. Richard J. Wurtman. Little, Brown, Boston, 1966. 123 pp. Illus. \$6.75. New England Journal of Medicine Medical Progress Series.

The Cell: Chemistry and Function. Roger H. Trumbore. Mosby, St. Louis, 1966. 430 pp. Illus. \$12.

Cell Synchrony: Studies in Biosynthetic Regulation. Ivan L. Cameron and George M. Padilla, Eds. Academic Press, New York, 1966. 408 pp. Illus. \$15. Eighteen papers.

Chemistry and Therapy of Peptic Ulcer. David C. H. Sun. Thomas, Springfield, Ill., 1966. 254 pp. Illus. \$8.50.

The Chemistry of the Antibiotics Used in Medicine. R. M. Evans. Pergamon, New York, 1966. 236 pp. Illus. Paper, \$6.50. The Commonwealth and International Library.

The Chlorophylls: Physical, Chemical, and Biological Properties. Leo P. Vernon and Gilbert R. Seely, Eds. Academic Press, New York, 1966. 695 pp. Illus. 200s. Nineteen papers contributed by M. B. Allen, S. Aronoff, N. K. Boardman, Lawrence Bogorad, L. J. Boucher, Warren L. Butler, Roderick K. Clayton, G. Cohen-Bazire, R. C. Dougherty, J. C. Goedheer, A. S. Holt, J. J. Katz, Bacon Ke, Walter Lwowski, John M. Olson, Roderic B. Park, G. R. Seely, W. R. Siström, Elizabeth K. Stanton, Harold H. Strain, Walter A. Svec, and Leo P. Vernon.

The Corticovisceral Theory of the Pathogenesis of Peptic Ulcer. K. M. Bykov and I. T. Kurtzin. Translated from the second Russian edition. Samuel A. Corson, Translation Ed. Pergamon, New York, 1966. 351 pp. Illus. \$11. International Series of Monographs on Cerebrovisceral and Behavioural Physiology and Conditioned Reflexes, vol. 2.

Current Topics in Plant Nutrition. Arthur Wallace and others. The Author, Univ. of California, Los Angeles, 1966. 232 pp. Illus.

Drug Identification. A scheme for the identification of organic chemicals used in medicine and pharmacy. C. A. Johnson and A. D. Thornton-Jones, Eds. Pharmaceutical Press, London, 1966. 143 pp. 35s.

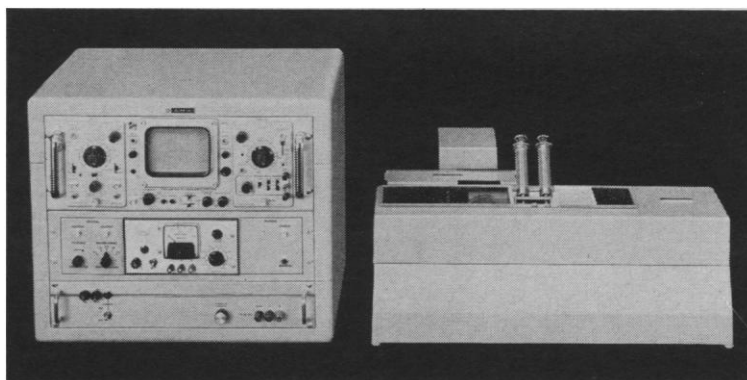
Enzyme Kinetics: Open and Closed Systems. Charles Walter. Ronald, New York, 1966. 108 pp. Illus. \$7.

Enzymes in Food Processing. Gerald Reed. Academic Press, New York, 1966. 495 pp. Illus. \$18.50. Food Science and Technology Series.

Fortschritte der Zoologie. vol. 18. Gerhard Czihak, Ed. Fischer, Stuttgart, Germany, 1966 (order from Intercontinental Medical Book Corp., New York). 206 pp. Illus. Paper, \$12. Two papers: "Tiergeographie (Bericht über die Jahre 1957-1964)" by Günther Niethammer and Helmut Kramer, and "Geschlechtsbestimmung" by Lutz Wiese.

Gas Chromatography in the Analysis of Steroid Hormones. Herbert H. Wotiz and

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Stanley J. Clark. Plenum Press, New York, 1966. 304 pp. Illus. \$12.50.

General Parasitology. V. A. Dogiel. Revised and enlarged by Yu. I. Polyanski and E. M. Kheisin. Translated from the third Russian edition (Leningrad, 1962) by Z. Kabata. Academic Press, New York, 1966. 526 pp. Illus. \$16.50.

Histogenese der Pteridophyten. Hermann von Guttenberg. Borntraeger, Berlin, 1966. 320 pp. Illus.

Human Brain and Psychological Processes. A. R. Luria. Translated from the Russian edition (1963) by Basil Haigh. Harper and Row, New York, 1966. 607 pp. Illus. \$14.50.

Index Bergeyana. An annotated alphabetic listing of names of the taxa of the bacteria. Robert E. Buchanan, John G. Holt, and Erwin F. Lessel, Jr., Eds. Williams and Wilkins, Baltimore, 1966. 1486 pp. \$25. A companion volume to *Bergey's Manual of Determinative Bacteriology*.

International Review of Research in Mental Retardation. vol. 1. Norman R. Ellis, Ed. Academic Press, New York, 1966. 320 pp. Illus. \$10.50. Eight papers: "A functional analysis of retarded development" by Sidney W. Bijou; "Classical conditioning and discrimination learning research with the mentally retarded" by Leonard E. Ross; "The structure of intellect in the mental retardate" by Harvey F. Dingman and C. Edward Meyers; "Research on personality structure in the retardate" by Edward Zigler; "Experience and the development of adaptive behavior" by H. Carl Haywood and Jack T. Tapp; "A research program on the psychological effects of brain lesions in human beings" by Ralph M. Reitan; "Long-term memory in mental retardation" by John M. Belmont; and "The behavior of moderately and severely retarded persons" by Joseph E. Spradlin and Frederic L. Girardeau.

Introduction to Environmental Physiology: Environmental Extremes and Mammalian Survival. G. Edgar Folk, Jr. Lea and Febiger, Philadelphia, 1966. 308 pp. Illus. \$12.

An Introduction to General and Comparative Animal Physiology. Ernst Florey. Saunders, Philadelphia, 1966. 725 pp. Illus. \$10.

Introduction to Genetics: Science of Heredity. A. J. S. McMillan. Pergamon, New York, 1966. 221 pp. Illus. Paper, \$4.95. The Commonwealth and International Library.

The Investigation of Psychotherapy: Commentaries and Readings. Arnold P. Goldstein and Sanford J. Dean. Wiley, New York, 1966. 457 pp. Illus. \$9.95. Sixty-three papers on the following topics: Research Philosophies (6 papers); Ethical Issues (4 papers); Experimental Design (5 papers); Measurement (5 papers); Criterion Problems (6 papers); Spontaneous Remission (6 papers); Time Dimensions (4 papers); Therapist Variables (6 papers); Patient Variables (6 papers); Relationship Variables (5 papers); Interview Models (5 papers); and Verbal Conditioning Models (5 papers).

Laboratory Instructions in Biochemistry. Israel S. Kleiner, Louis B. Dotti, and Isaac Neuwirth. Mosby, St. Louis,



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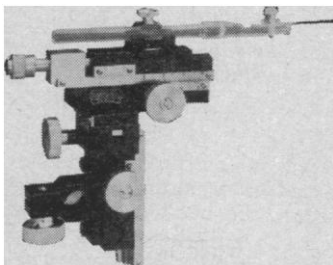
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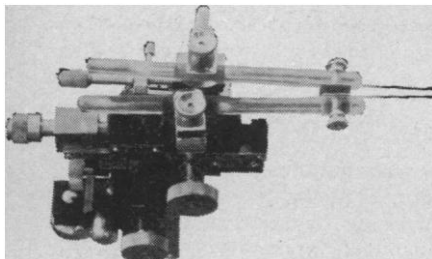
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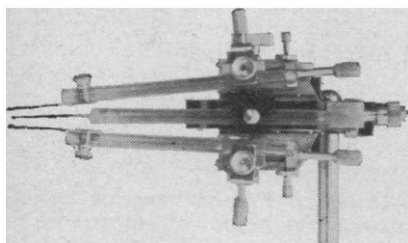
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ed. 7, 1966. 208 pp. Illus. Paper, \$3.95.

Laboratory Techniques in Botany. M. J. Purvis, D. C. Collier, and D. Walls. Butterworth, Washington, D.C., ed. 2, 1966. 447 pp. Illus. \$11.50.

Limnologie: L'étude des eaux continentales. Bernard Dussart. Gauthier-Villars, Paris, 1966. 700 pp. Illus.

Lucrările Institutului de Cercetări Veterinare și Biopreparate "Pasteur". vol. 2, Nos. 1 and 2. Redactia Revistelor Agricole, Bucuresti, Roumanie, 1965. No. 1, 347 pp.; No. 2, 431 pp. Illus.

Meat Science. R. A. Lawrie. Pergamon, New York, 1966. 384 pp. Illus. Paper, \$5.95.

Medical Microbiology. Erwin Neter. Davis, Philadelphia, ed. 5, 1966. 568 pp. Illus. \$8.

The Memory System of the Brain. J. Z. Young. Univ. of California Press, Berkeley, 1966. 136 pp. Illus. \$4.

Methods of Vitamin Assay. Prepared and edited by the Association of Vitamin Chemists. Myer Freed, chairman, Methods Committee. Interscience (Wiley), New York, ed. 3, 1966. 442 pp. Illus.

Modes of Reproduction in Fishes. Charles M. Breder, Jr., and Donn Eric Rosen. Published for the American Museum of Natural History. Natural History Press, Garden City, N.Y., 1966. 957 pp. Illus. \$17.50.

Molecules and Evolution. Thomas H. Jukes. Columbia Univ. Press, New York, 1966. 295 pp. Illus. \$8.50.

Natural Nidality of Transmissible Diseases: With Special Reference to the Landscape Epidemiology of Zoonoses. Evgeny N. Pavlovsky. Translated from the Russian edition (Moscow, 1964) by Frederick K. Plous, Jr. Norman D. Levine, Translation Ed. Univ. of Illinois Press, Urbana, 1966. 275 pp. Illus. \$8.

Neurosecretion. M. Gabe. Translated from the French by R. Crawford. Pergamon, New York, 1966. 886 pp. Illus. \$30. International Series of Monographs in Pure and Applied Biology.

Nutrition: A Comprehensive Treatise. vol. 3, *Nutritional Status: Assessment and Application.* George H. Beaton and Earle Willard McHenry, Ed. Academic Press, New York, 1966. 367 pp. Illus. \$15. Seven papers: "The nutrition and feeding of infants" by J. H. Ebbs; "The nutrition of children and adolescents" by Elizabeth Chant Robertson; "Nutrition in pregnancy and lactation" by A. M. Thomson and F. E. Hytten; "Nutrition and aging" by Donald M. Watkin; "Principles of therapeutic diets" by W. T. W. Clarke; "Assessment of nutritional status: Food intake studies" by Arnold E. Schaefer; and "Assessment of nutritional status: Biochemical methods" by W. N. Pearson.

The Organization of the Cochlear Receptor. H. Spoendlin. Karger, Basel, Switzerland, 1966 (available from Phiebig, White Plains, N.Y.). 231 pp. Illus. \$14.80. Advances in Oto-Rhino-Laryngology, vol. 13.

The Psychology of Set. Dmitrii Nikolaevich Uznadze. Translated from the Russian edition (Tiflis, 1961) by Basil Haigh. Consultants Bureau, New York, 1966. 269 pp. \$15. The International Behavioral Sciences Series.

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