

ing this volume, I often wished there was less reverence and veneration for what the West has contributed in the way of rigid schools of thought, and greater respect, by these workers, for their own individual abilities. These abilities might well be directed towards an international non-school-astic science, revolving around empirical descriptions, relative change, relative stability, and the influences of past civilizations and primitive man. In turn, Western thought in this field could not help but benefit.

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Oceanography. Invited lectures presented at the International Oceanographic Congress. AAAS Publication No. 67. Mary Sears, Ed. American Association for the Advancement of Science, Washington, D.C., 1961. xi + 654 pp. Illus. Cash price to members, \$12.50; others, \$14.75.

Nearly 1200 marine scientists from two thirds of the nations of the world met for 2 weeks (31 August to 12 September 1959) in the United Nations Building in New York. A selected few of these scientists presented the essence of their life's work to this learned audience in invited lectures. For each topic, part of the audience was competent and critical and the remainder was academically interested but not familiar with the detail or the background. The committee is to be congratulated on their selection of speakers. To a man, they proved themselves scholars, masters of their subjects, and excellent raconteurs. All this is reflected in the book.

Oceanography includes sections on the history of the oceans, populations of the sea, the deep sea, boundaries of the sea, and cycles of organic and inorganic substances in the oceans. Each section contains four to seven articles, each dealing with some aspect of physics, chemistry, or biology or their interrelations in the sea, the sea bottom, or the sea surface.

I am struck by the similarity of organization achieved between this volume and the *Discourses* of Machiavelli. In both, the authors explore factual situations, separate the local and fortuitous from the rules of general behavior, and point out successful and unsuccessful techniques. From

this background they define their goals and the possible approaches.

The book is a "sampler." It gives examples of successful marine research involving all academic disciplines. I doubt if even an avowed oceanographer will find every article to be of personal interest. On the other hand, any scientist, marine or otherwise, and in any field, will find one or more of the papers absorbing.

It is an outstanding reference book, at both the research and student levels. Each article includes the background, observation, reasoning, and conclusions to date on the topic. For the researcher the articles provide a most useful summary and a ready entry into the supporting scientific literature. Also, the discussions are mercifully condensed, clear, logical and readable. Much of the material can and should be used by university undergraduates, and even by high school students, as bases for term theses. In any case, the book should be required reading in science courses at the senior undergraduate level. Familiarity with living science, and with the research methods of the masters, is a part of education.

It is a book for the young scientist. I know of no other volume that so well defines oceanography, its purpose, opportunities, and requirements. Revelle, in his introduction, makes the point that oceanography is a field of research in which all disciplines of learning are combined. The volume demonstrates this by examples. It is evident that there is ample challenge in marine research for any good scientist.

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New Books

Biological and Medical Sciences

Advances in Carbohydrate Chemistry. vol. 15. Melville L. Wolfrom, Ed. Academic Press, New York, 1960. 457 pp. Illus. \$14.

Anatomy and Physiology. Diana Clifford Kimber, Carolyn E. Gray, and Caroline E. Stackpole. Lutie C. Leavell, Ed. Macmillan, New York, ed. 14, 1961. 789 pp. Illus.

Anthropology and Nutrition. vol. 2, *Records of the American-Australian Scientific Expedition to Arnhem Land.* Charles P. Mountford, Ed. Melbourne Univ. Press, Melbourne, Australia; Cambridge Univ. Press, New York, 1960. 527 pp. Illus. \$19.50.

A Bibliography of Eastern Asiatic Botany. Supplement 1, Egbert H. Walker. American Inst. of Biological Sciences, Washington 6, 1960. 612 pp. Individuals and industrial libraries, \$18.50; AIBS members, \$16.50. Covers the years 1937 to 1958. Subjects and area covered remain essentially the same as in the original work; Chinese botanical literature is least well covered. Indexes include subject (general and regional) and systematic.

The Biochemistry of Insects. Darcy Gilmour. Academic Press, New York, 1961. 355 pp. Illus. \$8.

Concepts of Medicine. A collection of essays on aspects of medicine. Brandon Lush, Ed. Pergamon, New York, 1961. 296 pp. \$8.50. Essays (26) reprinted from various sources.

Encyclopaedia Zoologica, Illustrated in Colours. pt. 3. Y. K. Okada *et al.* Hokuryukan Co., Tokyo, Japan, 1960. 266 pp. Illus. \$16.

The Evolution of Man. A brief introduction to physical anthropology. Gabriel Ward Lasker. Holt, Rinehart and Winston, New York, 1961. 255 pp. Illus. \$3.50.

Existential Psychology. Rollo May, Ed. Random House, New York, 1961. 126 pp. Paper, \$0.95. The papers, with the exception of certain parts added to the first chapter, were presented in a symposium at the annual convention of the American Psychological Association, 1959. Papers by Rollo May, G. Allport, H. Feifel, A. Maslow, and C. Rogers.

Experimental Ecology of the Feeding of Fishes. V. S. Ivlev. Translated from the Russian by Douglas Scott. Yale Univ. Press, New Haven, Conn., 1961. 310 pp. Illus.

Fundamentals of Radiobiology. Z. M. Bacq and Peter Alexander. Pergamon, New York, ed. 2, 1961. 567 pp. Illus. \$12.

Germ Plasm Resources. Publ. 66. Ralph E. Hodgson, Ed. AAAS, Washington, D.C., 1961. 393 pp. \$9.75; members' cash price, \$8.50. A symposium presented at the AAAS Chicago meeting, December 1959.

Grundriss der Allgemeinen Zoologie. Alfred Kuhn. Thieme, Stuttgart, Germany, 1961. 308 pp. Illus. DM. 18.80.

Indian Tobacco. Indian Central Tobacco Committee, Madras, 1960. 439 pp. \$10.

Indian Woods. Their identification, properties, and uses. vol. 1, *Dilleniaceae to Elaeocarpaceae.* K. A. Chowdhury and S. S. Ghosh. Forest Research Inst., Dehra Dun, India, 1958. 304 pp. + 30 plates. Illus. Rs. 25.50. The first of a planned six-volume series which aims to give all up-to-date information on species represented in the collection of the institute. Each volume will cover 250 to 300 species.

The Manipulation of Human Behavior. Albert D. Biderman and Herbert Zimmer, Eds. Wiley, New York, 1961. 335 pp. Illus. \$7.95. Seven original papers prepared for this study by R. R. Blake, R. C. Davis, L. A. Gottschalk, L. E. Hinkle, Jr., P. E. Kubzansky, M. L. Meltzer, J. S. Mouton, and M. T. Orne.

Morphology of the Angiosperms. Arthur J. Eames. McGraw-Hill, New York, 1961. 531 pp. Illus. \$13.50.

One Patient at a Time. A medical cen-

ter at work. Milton L. Zisowitz. Random House, New York, 1961. 298 pp. \$5.

Plant Analysis and Fertilizer Problems. Publ. No. 8. Walter Reuther, Ed. American Inst. of Biological Sciences, Washington, D.C., 1961. 469 pp. Illus. \$8. Proceedings of a symposium held in August 1959, sponsored by American Potash Institute.

Progress in Medical Virology. vol. 3. E. Berger and J. L. Melnick, Eds. Hafner, New York, 1961. 96 pp. Illus. \$20.75.

Quantitative Methods in Pharmacology. H. De Jonge, Ed. North-Holland, Amsterdam; Interscience, New York, 1961. 411 pp. Illus. \$13.25. Proceedings of a symposium held in Leyden, 10-13 May 1960.

Recent Advances in Human Nutrition. With special reference to clinical medicine. J. F. Brock. Little Brown, Boston, Mass., 1961. 466 pp. Illus. \$11.50.

Report of the Second Institute on Clinical Teaching. Helen Hofer Gee and Charles G. Child, III. American Assoc. of Medical Colleges, Evanston, Ill., 1961. 223 pp.

Specifications for Pesticides. Insecticides, rodenticides, molluscicides, herbicides, auxiliary chemicals, spraying and dusting apparatus. World Health Organization, Geneva, ed. 2, 1961 (order from Columbia Univ. Press, New York). 523 pp. Illus. \$10.

Standard Methods of Clinical Chemistry. vol. 3, American Assoc. of Clinical Chemists. David Seligson, Ed. Academic Press, New York, 1961. 240 pp. Illus. \$6.50.

The Survey of Dentistry. Byron S. Hollinshead, Director. American Council on Education, Washington, D.C., 1961. 637 pp. Illus. \$10. Final report of the Commission on the Survey of Dentistry in the United States.

Theoretical and Practical Problems of Medicine and Biology in Experiments on Monkeys. I. A. Utkin, Ed. Translated from the Russian by Ruth Schachter. Pergamon, New York, 1960. 283 pp. Illus. \$7.50.

Tobacco. Experimental and clinical studies. A comprehensive account of the world literature. P. S. Larson, B. H. Haag, and H. Silvette. Williams and Wilkins, Baltimore, Md., 1961. 944 pp. \$20.

Toward the Conquest of Beriberi. Robert R. Williams. Harvard Univ. Press, Cambridge, Mass., 1961. 350 pp. Illus. \$7.50.

Treatment of Silent Prostate-Vesiculism in General Practice. The reflex manifestations and "the therapeutic test." Elias R. Leikind and Harrison C. Harlin. Julian Press, New York, 1961. 314 pp. Illus. \$9.50.

World Review of Nutrition and Dietetics. vol. 2. Geoffrey H. Bourne, Ed. Hafner, New York, 1960. 255 pp. \$9.50.

Economics and the Social Sciences

Bargaining and Group Decision Making. Experiments in bilateral monopoly. Sidney Siegel and Lawrence E. Fouraker. McGraw-Hill, New York, 1960. 142 pp. \$4.90.

General Systems. Yearbook of the Society for General Systems Research.

vol. 5, 1960. Ludwig von Bertalanffy and Anatol Rapoport, Eds. Society for General Systems Research, 205 N. Forest Ave., Ann Arbor, Mich., 1961. 257 pp. Paper, \$7.50.

Impressions of European Psychiatry. Walter E. Barton *et al.* American Psychiatric Assoc., Washington, D.C., 1961. 141 pp.

Output, Input, and Productivity Measurement. Studies in income and wealth. A report of the Natl. Bureau of Economic Research. Princeton Univ. Press, Princeton, N.J., 1961. 516 pp. \$10.

Retirement Villages. Ernest W. Burgess, Ed. Div. of Gerontology, Univ. of Michigan, Ann Arbor, 1961. 170 pp. Paper, \$3.50. Papers, discussions, and recommendations for research resulting from the conference sponsored by the American Society of the Aged.

The Role of Speech in the Regulation of Normal and Abnormal Behaviour. A. R. Luria. J. Tizard, Ed. Pergamon, New York, 1961. 109 pp. \$8.50. Three lectures given by Luria at University College, London, 1958.

General

Cybernetics Without Mathematics. Henryk Greniewski. Translated by Olgierd Wojtasiewicz. Państwowe Wydawnictwo Naukowe, Warsaw, Poland; Pergamon, New York, 1961. 201 pp. Illus. \$6.

Penguin Summer. An adventure with the birds of the Falkland Islands. Eleanor Rice Pettingill. Potter, New York, 1960. 198 pp. Illus. \$5. A description of the environment, the people, and the plant and animal life of the archipelago.

Principles of Community Health. Jack Smolensky and Franklin B. Haar. Saunders, Philadelphia, Pa., 1961. 359 pp. Illus. \$6.

Religious Perspectives in American Culture. James Ward Smith and A. Leland Jamison, Eds. Princeton Univ. Press, Princeton, N.J., 1961. 427 pp. \$7.50.

The Shaping of American Religion. James Ward Smith and A. Leland Jamison, Eds. Princeton Univ. Press, Princeton, N.J., 1961. 514 pp. \$8.50.

The Transformation of Russian Society. Aspects of social change since 1861. Cyril E. Black, Ed. Harvard Univ. Press, Cambridge, Mass., 1960. \$9.75. Approximately 40 papers, prepared for an Arden House conference (1958) and revised following the discussion that dealt with aspects of Russian social institutions, relations, and values. Their purpose is to show the way in which the main characteristics of Russian society in the period 1861 to 1917 have persisted unchanged, have been transformed, or have been superseded during the decades of communist rule.

The Transformation of the School. Progressivism in American education, 1876-1957. Lawrence A. Cremin. Knopf, New York, 1961. 425 pp. \$5.50.

The Use of Chemicals in Southern Forests. Robert W. McDermid, Ed. Published for the School of Forestry by Louisiana State Univ. Press, Baton Rouge, 1961. 162 pp. Illus. \$4.

Mathematics, Physical Sciences, and Engineering

Advances in the Astronautical Sciences. vol. 6. Horace Jacobs and Eric Burgess, Eds. Macmillan, New York, 1961. 967 pp. Illus. \$25. Proceedings (57 papers) of the sixth annual meeting of the American Astronautical Society, January 1960.

Boundary and Eigenvalues Problems in Mathematical Physics. Hans Sagen. Wiley, New York, 1961. 399 pp. \$9.50.

Computing Methods and the Phase Problem in X-ray Crystal Analysis. Ray Pepinsky, J. M. Robertson, and J. C. Speakman. Pergamon, New York, 1961. 334 pp. Illus. \$9.

The Consulting Engineer. C. Maxwell Stanley. Wiley, New York, 1961. 266 pp. \$5.95.

Control of Nuclear Reactors and Power Plants. M. A. Schultz. McGraw-Hill, New York, ed. 2, 1961. 471 pp. Illus. \$12.50.

The Electron Microscope. The present state of the art. M. E. Haine. With a chapter on specimen techniques and applications written in collaboration with V. E. Cosslett. Interscience, New York, 1961. 298 pp. \$9.25.

Elements of Statistical Inference. Robert M. Kozelka. Addison-Wesley, Reading, Mass., 1961. 160 pp. Illus. \$5.

Engineering Management. Struan A. Robertson. Philosophical Library, New York, ed. 2, 1961. 479 pp. Illus. \$10.

Error-Correcting Codes. W. Wesley Peterson. Massachusetts Inst. of Technology Press and Wiley, New York, 1961. 295 pp. Illus. \$7.75.

Essentials of Mathematics. Russell V. Person. Wiley, New York, 1961. 656 pp. Illus. \$7.

Fatigue Testing and Analysis of Results. W. Weibull. Pergamon, New York, 1961. 318 pp. Illus. \$12.

Frame Analysis. Arthur S. Hall and Ronald W. Woodhead. Wiley, New York, 1961. 271 pp. Illus. \$8.50.

Modern Mathematics for the Engineer. Edwin F. Beckenbach, Ed. McGraw-Hill, New York, ed. 2, 1961. 476 pp. Illus. \$9.50.

Proceeding of the 1960 Annual International Conference on High Energy Physics at Rochester. E. C. G. Sudarshan, J. H. Tinlot, and A. C. Melissinos. Univ. of Rochester and Interscience, New York, 1960. 915 pp. \$13.50.

Pyridine and Its Derivatives. pt. 2. Erwin Klingsberg, Ed. Interscience, New York, 1961. 586 pp. \$37.50 (by subscription, \$32.50). Volume 14 in the "Chemistry of Heterocyclic Compounds" series.

Radio Waves in the Ionosphere. The mathematical theory of the reflection of radio waves from stratified ionized layers. K. G. Budden. Cambridge Univ. Press, New York, 1961. 566 pp. Illus. \$18.50.

A Textbook of Chemistry. Stella Goostay and J. Rae Schwenck. Macmillan, New York, ed. 8, 1961. 515 pp. Illus. \$6.95.

Thermodynamics. Gilbert Newton Lewis and Merle Randall. Revised by Kenneth S. Pitzer and Leo Brewer. McGraw-Hill, New York, ed. 2, 1961. 735 pp. \$12.50.