

To this poverty of theoretical thought, Hechter brings some enriching gifts of his own and finally, having shown that the "old" pharmacologist's concern with cell membranes was not so naive after all, we are left with some hard-headed criteria against that day when we think we understand how a hormone "acts."

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Recent Progress in Hormone Research. vol. XI. Proceedings of the 1954 Laurentian Hormone Conference. Gregory Pincus, Ed. Academic Press, New York, 1955. 518 pp. Illus. \$10.

The Hormones. Physiology, chemistry and applications. vol. III. Gregory Pincus and Kenneth V. Thimann, Eds. Academic Press, New York, 1955. xiii + 1012 pp. Illus. \$22.

The ten previous volumes of *Progress in Hormone Research*, the proceedings of the Laurentian Hormone Conferences, provide the best interpretative record in existence of the progress of endocrinology during the decade in question. The new volume, XI, maintains the fine tradition of those that preceded it. In a more encyclopedic vein, volume III of *The Hormones* presents the combined efforts of a distinguished group of investigators, ranging from botanists to internists, to record the current status of studies of internal secretion in plants and invertebrate and vertebrate animals. They, too, have succeeded well.

I was introduced to endocrinology at a time when the pioneer teachers, such as W. W. Swingle, covered all important aspects of their subject in the lectures of one course. A glance at these two volumes shows that such feats are no longer possible. The field must now be subdivided into its own specialties, which in turn pervade almost all branches of biological science. Volumes like the two under consideration provide the indispensable reference tools through which some degree of unity and coordination can be achieved.

The Laurentian volume contains reviews of work on the following new substances by the investigators most directly involved: crystalline neurohypophyseal hormones (van Dyke *et al.*), amphenone (Hertz *et al.*), halogenated corticoids (Fried *et al.*), and aldosterone (Simpson and Tait). In addition, there are authoritative presentations on the regulation of ACTH secretion (Munson and Briggs), metabolism of anterior pituitary hormones (Sonenberg and Money), hormones and abnormal growth (Furth; Rawson and Rall), the relation of hor-

mones to aging (Engle; Pincus *et al.*), the mechanism of action of insulin (Levine and Goldstein), effects of ions and hormones on carbohydrate metabolism (Hastings *et al.*), and of humoral cardiovascular relationships (Stammler *et al.*; Shorr *et al.*). The value of each paper is enhanced by the inclusion of extensive and well-edited discussions in which many new contributions are noted.

The Hormones is in the tradition of the German *Handbuchs* and includes comprehensive chapters, each with an extensive bibliography, on the following broad topics: plant growth hormones (Thimann and Leopold), invertebrate hormones (Scharer), neurohormones (Welsh), parathyroids (Greep and Kenny), insulin and glucagon (Stetten and Bloom), chemistry of the anterior pituitary hormones (Hays and Steelman), growth hormone and corticotrophin (Astwood), gonadotrophins and lactogen (Cowie and Folley), posterior pituitary (Landgrebe *et al.*), thyroid (Rawson *et al.*), steroid chemistry (Hirschmann), steroid metabolism (Dorfman), ovary and testis (Pincus), adrenal cortex (Noble), and clinical endocrinology (Paschkis and Rakoff).

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Protein Malnutrition. Proceedings of a conference in Jamaica sponsored jointly by the Food and Agriculture Organization of the United States; World Health Organization; and Josiah Macy, Jr., Foundation, New York. J. C. Waterlow, Ed. University Press, Cambridge, England, 1955. xvi + 277 pp. Plates.

This monograph covers the proceedings of a conference on malnutrition held in Jamaica in 1953. The discussion is divided into the biochemical aspects, the pathology, the clinical aspects and treatment, and the epidemiology and prevention of protein malnutrition. The conference is carried on in the manner characteristic of the Macy conferences. The participants discuss the presentation freely. The reader becomes part of the conference and is exposed to the different points of view of the various members.

The biochemical aspects are presented by J. C. Waterlow of the University College of the West Indies in Jamaica. A good deal of his discussion is concerned with the clinical condition known as *kwashiorkor*, which occurs in children in certain parts of the world and is associated with liver damage. In considering the state of protein depletion, he points out that the degree of depletion, the pat-

tern of depletion, and its chronicity must be considered. The ultimate aim should be to find some means of assessing these three factors and studying how they interact in any given case.

The pathology of protein malnutrition is discussed by G. R. Bras of the University College of the West Indies in Jamaica. He describes venous occlusive disease (V.O.D.), a condition not seen in this part of the world. V.O.D. leads to severe pathological changes in the liver, sometimes indistinguishable from other infantile cirrhoses. It is frequently preceded by an acute infection, but it is always associated with malnutrition.

The clinical aspects and treatment of protein malnutrition are presented by M. V. R. Rao of the Haffkine Institute, Parel, Bombay, and are discussed in great detail by the group.

The epidemiology and prevention are presented by R. F. A. Dean of Uganda, East Africa. Discussion was aimed at the broad principles of prevention and treatment of malnutrition of children all over the globe. The question of the relation of the onset of the disease to the time of weaning was discussed at great length. It was obvious from the discussion that parasitic infestation and infection play a considerable part in the onset of the protein malnutrition diseases. Most of the members of the panel felt that it was important to derive protein from foods that could be grown locally.

This conference is excellent. The interruptions are sometimes a little disconcerting but always provocative. There is a tremendous amount of information in this monograph that will be of interest, not only to the individuals inhabiting the areas of the world where protein malnutrition in children has a high incidence, but also to those of us in this part of the world interested in the nutritional aspects of disease.

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Microscopy of Ceramics and Cements.

Including glasses, slags, and foundry sands. Herbert Insley and Van Derck Fréchette. Academic Press, New York, 1955. xii + 286 pp. Illus. \$7.50.

This book brings together the extensive data on ceramics and inorganic cements and the fundamental knowledge and techniques necessary for their study. Although the book is devoted chiefly to light microscopy, electron microscopy is discussed in several connections.

The fundamentals of crystal optics are not treated at length. Indeed, these essential principles are stated so tersely that

supplemental materials will be needed in order to give satisfactory instruction in crystal optics to students in ceramic engineering. In contrast to this omission are the extensive applications that are discussed and the many helpful hints that are given on how to proceed—for example, those contained in Chapter 4, "Preparation of materials for microscopic examination." Here the authors describe a somewhat complicated gadget for selecting mineral grains under the microscope, but they do not mention the artist's brush moistened with saliva that has been used to select microfossils for many years. Separate chapters consider raw materials, whitewares, refractories, glass, cements, porcelain enamels, structural clay products, foundry sands, and slags. H. N. Baumann, Jr., contributed a chapter on abrasives.

An amusing inconsistency is the spelling of the plural of *alkali*. On page 71 it appears more than once as *alkalies*, whereas on page 88 and elsewhere, *alkalis* is used. The pronunciation of the latter spelling should rhyme with kiss, this, and appendicitis; it is objectionable. I was mildly surprised to learn that my former colleagues and I (p. 196) do not adhere to the osmotic theory for expansion of concrete during alkali-aggregate reaction. Comparisons of our calculated and measured pressures were offered by us as evidence that osmosis is involved. The spelling of forsterite is in error on page 146, under Fig. 8.17, and pseudowollastonite is hyphenated in about half of its appearances. Despite other trivial defects, the arrangement and presentation are excellent.

Mineralogists and petrographers will find this book extremely useful in connection with the examination of raw materials and fired products. Persons engaged in research or development of ceramic materials will find it invaluable.

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New Books

Handbook of Vital Statistics Methods. Ser. F, No. 7, *Studies in Methods*. Statistical Office of the United Nations, New York, 1955. 258 pp. \$2.50.

Nuclear Magnetic Resonance. E. R. Andrew. Cambridge Univ. Press, New York, 1955. 265 pp. \$6.50.

An Introduction to Botany. Arthur W. Haupt. McGraw-Hill, New York, ed. 3, 1956. 447 pp. \$5.50.

Science and Modern Life. E. John Russell. Philosophical Library, New York, 1955. 101 pp. \$2.75.

Principles of Physical Metallurgy. Morton C. Smith. Harper, New York, 1956. 417 pp. \$6.

Advances in Food Research. vol. VI. E. M. Mrak and G. F. Stewart, Eds. Academic Press, New York, 1955. 397 pp. \$9.

The Role of Algae and Plankton in Medicine. Morton Schwimmer and David Schwimmer. Grune & Stratton, New York-London, 1955. 85 pp. \$3.75.

Relativity: The Special Theory. J. L. Synge. North-Holland, Amsterdam; Interscience, New York, 1956. 450 pp. \$10.50.

Plane Waves and Spherical Means Applied to Partial Differential Equations. Interscience, New York-London, 1955. 172 pp. \$4.50.

Chemical Pilot Plant Practice. Donald G. Jordan. Interscience, New York-London, 1955. 152 pp. \$3.50.

The New Astronomy. 243 pp. *Automatic Control*. 148 pp. *Atomic Power*. 180 pp. *The Physics and Chemistry of Life*. 270 pp. *First Book of Animals*. 240 pp. Editors of *Scientific American*. Simon and Schuster, New York (reprinted from *Scientific American*), 1956. Paper, \$1 each.

Soil Physics. L. D. Baver. Wiley, New York; Chapman & Hall, London, ed. 3, 1956. 489 pp. \$7.75.

Index to the Year Books and Regional Papers of the American Iron and Steel Institute. Compiled by Jeanne McHugh. Univ. of Oklahoma Press, Norman, 1955. 593 pp. \$12.50.

Philosophical Writings of Peirce. Justus Buchler, Ed. Dover, New York 10 (unaltered and unabridged republication of *The Philosophy of Peirce: Selected Writings*, Routledge and Kegan Paul, 1940), 1955. 388 pp. Cloth, \$4.50; paper, \$1.95.

Ludwig Boltzmann, Mensch, Physiker, Philosoph. Engelbert Broda. Deuticke, Vienna, 1955. 152 pp.

Judaism and Psychiatry. Two approaches to the personal problems and needs of modern man. Simon Noveck, Ed. National Acad. for Adult Jewish Studies, United Synagogue of America, New York, 1956. 197 pp. Paper, \$2.50.

Vascular Surgery in World War II. Daniel C. Elkin and Michael E. DeBakey, Eds. Historical Unit, Army Medical Service, Washington, 1955 (Order from Supt. of Documents, GPO, Washington 25). 465 pp. \$4.25.

The Sun and Its Influence. An introduction to the study of solar-terrestrial relations. M. A. Ellison. Macmillan, New York, 1956. 235 pp. \$4.50.

The Blood-Brain Barrier with Special Regard to the Use of Radioactive Isotopes. Louis Bakay. Thomas, Springfield, Ill., 1956. 154 pp. \$5.50.

The Dynamics of Living Protoplasm. L. V. Heilbrunn. Academic Press, New York, 1956. 327 pp. \$6.50.

Principles of Organic Chemistry. An introductory text in organic chemistry. James English, Jr., and Harold G. Cassidy. McGraw-Hill, New York, ed. 2, 1956. 469 pp. \$6.50.

Distillation in Practice. A collection of papers originally presented in Philadelphia, Pa., in May, 1954, under the auspices of the Philadelphia-Wilmington Section of the American Institute of Chemical Engineers and the Department of Chemical Engineering, University of Pennsylvania. Charles H. Nielsen, Ed. Reinhold, New York; Chapman & Hall, London, 1956.

Miscellaneous Publications

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

National Society of Professional Engineers, Annual Report, 1954-1955. A report to the membership. The Society, Washington, 1955. 24 pp.

Bulletin Climatologique Annuel du Congo Belge et du Ruanda-Urundi Année 1954. Bureau Climatologique, Communication No. 10. Institut National pour l'Etude Agronomique du Congo Belge, Bruxelles, 1955. 161 pp. F. 120.

Abatement of Highway Noise and Fumes. Highway Research Bd. Bull. 110. National Acad. of Sciences-National Research Council, Washington, 1955. 47 pp. \$0.90.

Rubber Rolls. Rodney Hunt Machine Co., Orange, Mass., 1955. 59 pp. \$2.

Some Conditions Affecting Quality, Consistency, and Predictability of Performance in Solving Complex Problems. Research Rept. AFPTRC-TN-55-27. Project No. 7703, Task Nos. 77071 and 77973. Robert M. W. Travers, Joseph E. Marron, and Andrew J. Post. 86 pp. *Some Correlates of Instructor Job Satisfaction*. Research Rept. AFPTRC-TN-55-28. Project No. 7731, Task No. 77427. John T. Lanzetta and Dorothy M. Knoell. 49 pp. Air Force Personnel & Training Research Center, Lackland Air Force Base, San Antonio, Tex., 1955.

Spectrochemical Abstracts, 1946-1951. vol. IV. Ernest H. S. van Someren and F. Lachman. Hilger & Watts, London, 1955. 179 pp. \$5.75.

Life History and Cytology of the Foraminiferan Allogromia Laticollaris. Publ. in Zoology, vol. 61, No. 4. Zach M. Arnold. 86 pp. \$1.25. *Planned Migration, the Social Determinants of the Dutch-Canadian Movement*. Publ. in Sociology and Social Institutions, vol. 2. William Petersen. 273 pp. \$3.50. Univ. of California Press, Berkeley, 1955.

A Study of African Chironomidae. pt. 1. Bull. of the British Museum (Natural History) Entomology, vol. 4, No. 1. Paul Freeman. 68 pp. 15s. *The Heterophilous Selaginellae of Continental North America*. Bull., Botany, vol. 1, No. 8. A. H. G. Alston. 55 p. 16s. *Mosses of Dominica, British West Indies and Mosses of the Ecuadorian Andes Collected by P. R. Bell*. Bull., Botany, vol. 2, No. 2. Edwin B. Bartram. 30 pp. 6s. British Museum (Natural History), London, 1955.

New York University, College of Engineering, Research Division Annual Report, 1955. New York Univ., New York, 1955. 36 pp.

Education Directory. pt. 4, *Education Associations, 1954-55*. 56 pp. \$0.25. *Clerical and Custodial Staff in Public Secondary Day Schools*. Circular No. 445. Ellsworth Tompkins and Mabel C. Rice. 83 pp. \$0.55. U.S. Office of Education, Washington 25, 1955 (Order from Superintendent of Documents, GPO, Washington 25).

Control of Insect Vectors in International Air Traffic. A survey of existing legislation. World Health Organization, Geneva, 1955. 59 pp. \$0.70.