Book Reviews

Embryology. Rev. ed. Lester George Barth. New York: Dryden Press, 1953. 516 pp. Illus. $6.00.

The preparation of a textbook which for the first time attempts to combine descriptive and experimental studies must, as the author himself has commented, be regarded as an experiment; and, like most "first" experiments, it is to be expected that revisions and refinements will be needed as time goes on. The present, second, edition represents these revisions and refinements to the extent of nearly doubling the original number of pages

The great increase in the number of pages is due primarily to the addition of figures and figure legends. Ninety-seven of these constitute a new chapter, the 21st and last, dealing with the comparative embryology of vertebrates. This can actually be used in the laboratory as a manual. Well-executed and well-labelled drawings of typical cross sections and dissections of embryos of the frog, chick, pig, and man, at several developmental periods, have been quite ingeniously arranged so that a specific organ can be studied either chronologically through its development in one embryo, or comparatively in several different embryos at the same time.

Throughout the text (chs. 1 to 20) approximately 75 new illustrations, mostly half-tone reproductions, taken from original papers of outstanding authorship, have been added as companion illustrations to supplement the excellent, schematic teaching diagrams typical of the first edition. These numerous photographs and drawings from the original papers are a welcome addition. They provide the student with the complete reference to much additional experimental material, thus encouraging collateral reading, and at the same time give him an accurate idea of the details and the real object under study. With such an abundance of illustrative material—photographs for realism, diagrams for easy comprehension of principles—the teaching value of this refreshingly unique book has been greatly enhanced.

The general subject outline has not been much changed. New material has been added here and there, but primarily to the sections on the nervous system and the mesodermal derivatives. A fuller account of the early development of the chick has also been given, including the origin of the layers of the blastoderm, the movement of cells in the formation of the primitive streak, and the relationship of the primitive streak to the later embryo. A slight change in organization, affecting the order of presentation of material, has been made. In the present edition the description of the development of the frog and chick precedes the analytical experimental treatment. This was done with the hope of its being of greater help to the student in his visualization and comprehension of the principles of development.

In general, the revisions and improvements which the author has made are quite praiseworthy and undoubtedly will increase the usefulness of the text. The present edition can be highly recommended as a teaching guide for college students beginning their study of embryology.

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Five-Membered Heterocyclic Compounds Containing Nitrogen and Sulfur or Nitrogen, Sulfur, and Oxygen (Except Thiazole). L. L. Bambas. New York: Interscience, 1952. 403 pp. $14.00.

This is the fourth volume to be published in a series of monographs whose purpose is to cover the large and complex classes of heterocyclic compounds in a detailed and comprehensive fashion. The contents are divided into three parts. The chemistry of the thiadiazoles takes up the first 211 pages. It is followed by a short chapter (8 pp.) on five-membered rings containing nitrogen, sulfur, selenium, or oxygen atoms in addition to one sulfur and one nitrogen atom. Finally, the third part presents in 148 pages the isothiazoles and their derivatives.

The contents of the various chapters are well organized and the historical development is chosen to describe uncritically the chemistry of the vast number of compounds. The presentation of many structural formulas and equations are very helpful to the reader in following the sometimes complex reactions. Tables at the end of each subdivision summarize methods of preparation of individual compounds and give their structural formulas and physical data, e.g., solubilities and melting points. The large number of references cited, cover the literature through 1950.

This reviewer feels that the short discussions and critical evaluations of the literature at the conclusion of most of the chapters are very desirable. They show the reader some of the contradictions which occur in the literature and point to the direction in which further research is needed.

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Adrenal Cortex: Transactions of the Fourth Conference, November 12–14, 1952, New York. Elaine P. Ralli, Ed. New York: Josiah Macy, Jr. Fdn., 1953. 165 pp. Illus. $3.50.

This book records the transactions of the fourth of five scheduled Macy Foundation conferences on the adrenal cortex. As is usual with these conferences, attendance was limited to 25 invited members. Discussion topics comprised four broad subjects, three of which were introduced by formal presentation of conference members. Most of the volume is filled, however, with the three-day informal discussion, well-edited by Dr. Ralli.

These proceedings do not serve, and are not intended to serve, as reference works. The volume excellently, however, records the current pattern of thinking of the 25 discussants involved, a pattern which will determine the nature of much of the formal bibliography on the adrenal cortex for succeeding years.

The first topic discussed was the Permissive Action of Adrenal Cortical Hormones. This term, generally associated with the name of Dwight Ingle, refers to those situations in which the presence of some minimal amount of cortical hormone is required before some other substance or influence can induce a characteristic response. The concept has served the admirable purpose of reducing the formidable number of things *caused* by the adrenal cortex, in the sense that *permission* can be substituted for *cause*; the distinction has eased conceptual effort whether or not it has added greatly to basic understanding. By implication, however, *permissive action* refers to all-or-none phenomena—that the so-called permissive actions of the cortical hormones are indeed all-or-none actions was called into serious question by the discussants, including Ingle himself.

The second topic was entitled Mechanisms Through Which the Adrenal Cortex Produces Qualitatively Different Effects and its discussion led by Hans Selye. The explorations of this provocative topic, much of which concerned Selye's work on the interaction of adrenal and pituitary hormones in both general and localized adaptation syndromes, filled one-third of the volume. Although the discussion was of great interest, the novice should not expect that perusal of the chapter would provide any final answer to the problems raised by the title.

The third subject, Existence, Nature, and Site of Production of a Salt Hormone (Mineralo-Corticoid) Secreted by the Adrenal Gland, was introduced by Martha Vogt of Edinburgh. This is the most exciting subject in the adrenal field at present because of evidence that the most potent adrenal hormone is yet to be identified and its full biological properties described. The hormone concerned, however, was reminiscent of the elusive rabbit in *Harvey*; its portentous reality was accepted but it never emerged into a state of visibility. Subsequent chemical work has assured that it will do so soon, since the probable chemical entity involved has been crystallized (*see* S. A. Simpson, *et al.*, *Experientia* 9, 333 [1953]).

In the last chapter, Effects of Adrenalectomy in Man, F. D. W. Lukens presented a summary of experience of the Philadelphia group with 69 cases of total or partial adrenalectomies performed as an experimental therapy for hypertension. Little attention was given to the other possible indications for adrenalectomy. In general, it seemed that adrenalectomy can serve as a rehabilitating and life-saving procedure in certain types of cardiovascular disease, and particularly in those cases without pre-established renal pathology. This was an encouraging estimate of the situation in view of the fact that the only cases so treated were those refractory to the usual medical therapies.

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New Books

The Collected Papers of Otto Fenichel. First series. Hanna Fenichel and David Rapaport, Eds. New York: Norton, 1953. 408 pp. $6.50.

Wildlife in Alaska: An Ecological Reconnaissance. A. Starker Leopold and F. Fraser Darling. (Sponsored by the New York Zoological Society and the Conservation Foundation.) New York: Ronald Press, 1953. 129 pp. Illus. + plates. $2.75.

Readings in the Philosophy of Science. Herbert Feigl and May Brodbeck, Eds. New York: Appleton-Century-Crofts, 1953. 811 pp. $6.00.

A Speculation in Reality. Irving F. Laucks. New York: Philosophical Library, 1953. 154 pp. $3.75.

Temperature Measurement in Engineering, Vol. I. H. Dean Baker, E. A. Ryder, and N. H. Baker. New York: Wiley; London: Chapman & Hall, 1953. 179 pp. Illus. $3.75.

The Physiopathology of Cancer. Freddy Homburger and William H. Fishman, Eds. New York: Hoeber-Harper, 1953. 1031 pp. Illus. $18.00.

Fields and Waves in Modern Radio. 2nd ed. Simon Ramo and John R. Whinnery. New York: Wiley; London: Chapman & Hall, 1953. 576 pp. $8.75.

Problems in Organic Chemistry. Edward G. Rietz and C. B. Pollard. New York: Prentice-Hall, 1953. 332 pp. Illus. $3.95.

Reason and Nature. An essay on the meaning of scientific method. Morris R. Cohen. Glencoe, Ill.: Free Press, 1953. 470 pp. $6.00.

The Psychology of Personality. Bernard Notcutt. New York: Philosophical Library, 1953. 259 pp. $4.75.

High Altitude Rocket Research. Homer E. Newell, Jr. New York: Academic Press, 1953. 298 pp. Illus. $7.50.

The Screen Projection of Chemical Experiments. E. J. Hartung. Melbourne, Australia: Melbourne Univ. Press; New York: Cambridge Univ. Press, 1953. 291 pp. Illus. + plates. $4.75.

Nuclear Physics. W. Heisenberg. New York: Philosophical Library, 1953. 225 pp. Illus. $4.75.

Advances in Virus Research, Vol. I. Kenneth M. Smith and Max A. Lauffer, Eds. New York: Academic Press, 1953. 362 pp. Illus. $8.00.

The Ustilaginales of the World. Contrib. No. 176, Dept. of Botany. George Lorenzo Zundel. State College, Pa.: Pennsylvania State College, 1953. 410 pp. $3.50.

The Design of Social Research. Russell L. Ackoff. Chicago, Ill.: Univ. Chicago Press, 1953. 420 pp. Illus. $7.50.

Semimicro Qualitative Analysis. Rev. ed. Hervey Hubbard Barber and T. Ivan Taylor. New York: Harper, 1953. 404 pp. $4.50.

Plane Trigonometry. Repr. in part from *First-Year Mathematics for Colleges.* Paul R. Rider. New York: Macmillan, 1953. 180 pp. Illus. $3.00.

Roger Bacon in Life and Legend. E. Westacott. New York: Philosophical Library, 1953. 140 pp. $3.75.

Metallurgical Dictionary. J. G. Henderson and J. M. Bates. Reinhold, New York, 1953. 396 pp. $8.50.