

the old scale, acknowledged to be in great error, without adopting an approximate correction to a new scale. The author deals with such perennially thorny topics as the distribution of galaxies, the presence of intergalactic matter, and the luminosity function for galaxies. A subtitle might well be "Colliding theories of galaxies."

In addition to galaxies, the author discusses a wide variety of topics. As an illustration of the morphological approach he outlines a standardized system by which scientists can dispose of "Bothersome Inquiries." In view of the schedule-disrupting impact of sputniks I and II on the lives of many astronomers, this section is of particularly pertinent and timely interest. Although the morphological approach demands an "unprejudiced interest in all things" (page 283), the reader may wonder, from the author's decided opinions on various topics—for example, from his comments on the program for the 48-inch Schmidt telescope at Palomar (page 39) and his sweeping disparagement of observational astronomy in seven well-known countries (page 5)—whether Zwicky himself has been able to avoid prejudices.

Certainly anyone interested in galaxies should familiarize himself with the material in this book. In so doing he will doubtless become interested in pursuing his own lines of reasoning in the light of the morphological approach outlined by Zwicky.

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Recent Progress in Hormone Research. vol. XIII. *Proceedings of the Laurentian Hormone Conference 1956.* Gregory Pincus, Ed. Academic Press, New York, 1957. viii + 646 pp. Illus. \$12.80.

This book follows in the tradition of previous volumes of this series in providing lucid and provocative accounts of endocrinologic subjects of timely interest. An especially valuable feature of the book, as of the earlier volumes, consists of a complete coverage of the often spirited discussions following the formal presentations of the papers by recognized authorities in endocrinology.

The present volume is divided into five sections. Section I deals with "Neurohumoral-Endocrine Relationships." The first paper, by Udenfriend, Shore, Bogdanski, Weissbach, and Brodie, gives a cogent account of the "Biochemical, physiological and pharmacological aspects of serotonin." E. Anderson, Bates, Hawthorne, Haymaker, Knowlton, M. Rioch, Spencer, and H. Wilson report new experiments on "The effects of midbrain and spinal cord transection on

endocrine and metabolic functions with postulation of a midbrain hypothalamico-pituitary activating system." A succinct analysis of hypothalamic-hypophyseal interrelations is presented in the paper on "Studies on the influence of the central nervous system on anterior pituitary function," by Greer. C. P. Richter, in his paper on "Hormones and rhythms in man and animals," describes an interesting correlation of cycles of behavior and metabolism in psychiatric patients and the production of similar cycles in rats through interference with thyroid, pituitary, and brain function.

Section II deals with "Hormone Transport in Circulation." Recent concepts of the binding of thyroid hormone and of steroids to proteins in body fluids are provided in excellent studies on "The interaction of thyroid hormones and protein in biological fluids," by Robbins and Rall, and on "The binding of steroids and steroid conjugates to human plasma," by Sandberg, Slaunwhite, and Antoniades.

The assignment of section III to "Aspects of Reproduction" no doubt stems from the recent active interest in the effects of the newly synthesized steroidal derivatives on reproductive processes in man. A fundamental background to the problem is provided in the paper by Schlesnyak on "Some experimental studies on the mechanism of ova-implantation in the rat," which includes some interesting new data on the effects of histamine, epinephrine, and ergotamine on decidual cell development and nidation. Following this are two clinical papers, one dealing with "Synthetic progestins in the normal menstrual cycle," by Rock, Garcia, and Pincus, and the second with "The metabolism of progesterone and its clinical use in pregnancy," by Davis and Plotz. A discussion of the use of progestational steroids in inhibiting ovulation and in the treatment of infertility and habitual abortion in women is included in these papers. A note of caution is voiced in Carl Hartman's remarks (page 345) on the possible toxic effects with prolonged use of these agents. This section is concluded with an instructive paper by Junkmann on "Long-acting steroids in reproduction," dealing with the influence of esterified androgens, estrogens, and progestogens on reproductive organs and processes in rodents.

Section IV is devoted to "Hormone Chemistry and Metabolism." Mirsky gives a clear description of his more recent work in "Insulinase, insulinase-inhibitors and diabetes mellitus." Evidence is presented that a variety of compounds of the plant growth hormone structure are insulinase inhibitors and display hypoglycemic actions in animals.

The question is raised in the ensuing discussion whether some forms of diabetes mellitus might not have a nonendocrine origin. The second paper in this section is concerned with a survey of the chemical properties and actions of "Glucagon, a second pancreatic hormone," by Foa, Galansino, and Pozza. Some parts of the discussion that follows this paper debate the validity of including glucagon as a legitimate member of the endocrine system.

Section V includes two comprehensive papers on problems relating to "Hormones and Stress." The first, by Moore, on "Endocrine changes after anesthesia, surgery and unanesthetized trauma in man," reports the adrenal cortical response to traumatic experiences in man and the possible teleological significance of these adrenal alterations. The second paper, by Gray and Ramsey, on "Adrenal influences upon the stomach and gastric responses to stress," reviews the evidence for an adrenal-gastric relation in animals and man and concludes with a consideration of the relation of the adrenal and stress to the production of gastric ulcers.

The program organizing committee of the Laurentian Hormone Conference, the participants, and the publishers deserve praise for their efforts in making the present volume one of the best in this valuable series.

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The American Economy. Alvin H. Hansen. McGraw-Hill, New York, 1957. xv + 199 pp. \$5.

The essential part of this short book originated in six lectures sponsored by the Charles R. Walgreen Foundation at the University of Chicago during 1956. The lectures are concerned broadly with the role of government in the growth and progress of the U.S. economy. Hansen gives his interpretation of the recent course of economic events in the United States and Western Europe. He devotes much attention to the purposes of the Employment Act of 1946 and the way in which it was implemented by both the Truman and the Eisenhower administrations. He treats of monetary policy and of standards and values in a rich society. The book ends with an essay on Keynesian economic thinking and has an appendix on Woodrow Wilson as an economic reformer.

Hansen argues that economic stagnation followed World War I, while expansion and growth followed World War II, and that this was due to a transition from "low pressure economics" to