formation relative to the problems, investigators, and institutions involved. Indeed, all information concerning the amount of support is supplied by those agencies making the awards; neither investigators nor research institutions are burdened by inquiries of this nature.

Obviously the usefulness of the exchange will increase through the active cooperation of greater numbers of investigators and of granting agencies, and it is hoped that all granting agencies, including industry and the more restricted foundations, will join in the endeavor. Organizations and individuals interested in cooperating are invited to address inquiries to the Medical Sciences Information Exchange, NRC Division of Medical Sciences, Room 1113, Dupont Circle Bldg., Washington 6, D. C.

STELLA LECHE DEIGNAN
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Book Reviews

Pharmacological Basis of Penicillin Therapy. Karl H. Beyer. Springfield, Ill.: Thomas, 1950. 214 pp. $4.50.

This book is concise, well documented, and describes in some detail the pharmacological basis of penicillin therapy. It is sufficiently broad to appeal to the investigator in the field of antibiotics, yet simple enough to be of interest to the casual reader of scientific literature or to the busy practitioner who is interested in the "why" of the pharmacological action of penicillin.

Seven chapters treat the pharmacology of penicillin in a logical order, beginning with the factors influencing absorption and distribution in the tissues, outlining the problems presented because of the rapid urinary excretion of penicillin, and concluding with a description of the attempts to alter this excretion through use of combinations of penicillin and carinamide. The latter studies are thoroughly discussed. Numerous descriptive figures and charts break the monotony of the printed page and contribute extensively to the value of the work. Well-chosen references following each chapter give available source material for those interested in a more extensive perusal of the subject.

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Ion Exchange Resins. Robert Kunin and Robert J. Myers. New York: Wiley; London: Chapman & Hall, 1950. 212 pp. $4.75.

This relatively brief book by two highly qualified men represents an attempt to summarize the rapidly expanding field of ion exchange with synthetic resins. With its more than 600 references it can serve as a good guide to the literature (through 1948), and the authors appear to have succeeded in their purpose to "assemble, digest and classify a sizable portion" of ion exchange information. The book will probably find many friends among people interested in the application of ion exchange to industrial processes, while those interested in research in this field may find the longer treatise edited by Nachod somewhat more satisfactory.

This reviewer feels that the chapter on ion exchange theory suffers the most from the brevity of the style. One could have wished that the authors had included in this chapter a more critical evaluation of the various theories. More information regarding their relative merits would have helped greatly to orient the thinking of those unfamiliar with the field.

As is common with first editions, the book contains a number of misprints and errors, and some special terms (e.g., "symmetry ratio," "exchange potential") are inadequately defined. However, these are not sufficient to impair the usefulness of the book to those interested in rapidly acquiring a general background on ion exchange.

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Pituitary-Adrenal Function. A symposium organized by the Section on Medical Sciences of the AAAS and presented at the New York meeting on December 28–29, 1949. Washington 5, D. C.: American Association for the Advancement of Science, 1950. 211 pp. $4.00; prepaid orders from members, $3.50.

The present intense interest in the interrelated functions of the anterior pituitary and the adrenal cortex determined the topic of this symposium of the Section on Medical Sciences of the AAAS. This book contains brief reports of nearly all the topics discussed in the meeting.

In a brief introductory chapter, G. A. Perera emphasizes that adrenal cortical secretions, like drugs, initiate no new cellular functions but act as regulating agents. Up to the present there is only a modest accumulation of fragmentary knowledge concerning the cellular functions which are regulated. C. H. Li discusses in some detail the chemistry of active peptides derived from the presumed protein hormone, ACTH, by peptic digestion. Evidence is offered for the conclusion that the peptides have an average molecular weight of 1,200 or less and an average length of 7–9 amino acids. One fraction, isolated by partition chromatography on paper, was about twice as active as

the peptide mixture. In human experiments, the peptide mixture and ACTH protein were indistinguishable in their action after equally large doses of either were administered (L. W. Kinsell *et al.*). An accurate quantitative comparison of the two in the clinic has not been made.

Physiological and pharmacological aspects of pituitary-adrenal interrelationships are discussed by B. L. Baker, F. C. Bartter with Fuller Albright and others, R. O. Greep, D. J. Ingle, C. N. H. Long, and E. H. Venning. Usually, but not always, the experimental basis for new hypotheses rather than those generally accepted is described. H. W. Deane reviews the experimental evidence for the independence of the zona glomerulosa of the rat's adrenal from anterior pituitary control.

J. W. Conn and his colleagues describe human experiments on which they base their belief that esterified cholesterol, according to its behavior in serum, is a probable precursor of cortical steroids. H. L. Mason discusses the methods he used in isolating 17-hydroxycorticosterone (Compound F) from the urine of patients who had been subjected to stress in major surgical operations or had received ACTH. Patterns of excretion of known and incompletely identified steroids of adrenal cortical origin are authoritatively described by Konrad Dobriner and his associates.

The adrenal cortical neoplasms which occur in gonadectomized mice of certain strains have been investigated for years by G. W. Woolley. Their frequency is higher in spayed females than in castrated males. Woolley is not able to report much progress in deciding whether anterior pituitary secretion is the "inciter." Pearson and his colleagues report their investigation of the effects of cortical secretions on neoplastic lymphoid tissue in one patient; however, their report appears to have little value until more observations have been made.

Some metabolic consequences of adrenal cortical secretion are considered by Engel, Gaunt, and Sprague. Engel is interested in the course of protein catabolism. Gaunt and his colleagues cautiously discuss hypotheses concerning water metabolism in relation to adrenal cortical function. Sprague and Power compare the metabolic effects of ACTH, cortisone, and Compound F in man. It is of interest that the last-named substance, believed by some to be the important steroid secreted by the adrenal cortex, had only slight metabolic effects after 900 mg had been administered to a patient over a period of 12 days.

Five communications are concerned with the effects of cortical secretions in experimental or clinical disease. The reaction of the organism to stress and its possible importance in the pathogenesis of several degenerative diseases are discussed by F. R. Skelton, an associate of Hans Selye. T. F. Dougherty describes interesting observations concerning the modification of hypersensitivity by adrenal cortical secretions. Several possible mechanisms are considered in explaining why "anaphylactogenic" substances cause less cellular damage if adequate adrenal cortical secretion is available. A. C. Corcoran, as he admits, is not able to marshal convincing evidence that the adrenal cortex is "genetically concerned" in essential hypertension in man. Some aspects of human diabetes mellitus in relation to adrenal cortical secretions are discussed by E. S. Gordon. His preliminary studies make clear the great difficulty of securing satisfying results in this difficult field of clinical investigation. In the last report, Hudson Hoagland summarizes work of himself, Gregory Pincus, and their collaborators. Hoagland concludes that in about two thirds of a group of chronic (average hospitalization: 2.5 years) schizophrenic patients, the response of the adrenal cortex to ACTH, either secreted or injected, was abnormally low. It is suggested that this finding may have prognostic value in electroshock therapy, which produced greater benefit in patients with a more normal response to ACTH.

Gordon K. Moe, responsible for the organization of this symposium, succeeded in bringing together a large proportion of the American investigators interested in pituitary-adrenal physiology. Most of these brief reports are clearly written, and the collection will be welcome as a record of viewpoints and investigative interests in 1950.

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Scientific Book Register

Parasitic Infections in Man. Symposium held at the New York Academy of Medicine, March 15 and 16, 1949. Harry Most, Ed. New York: Columbia Univ. Press, 1951. 229 pp. $4.50.

Geography of the Pacific. Otis W. Freeman, Ed. New York: Wiley; London: Chapman & Hall, 1951. 573 pp. $10.00.

Ecology of Animal Parasites. Jean G. Baer. Urbana, Ill.: Univ. Illinois Press, 1951. 224 pp. $5.00.

Stereochemistry: A Textbook of General Organic Chemistry. E. de Barry Barnett. New York: Pitman; London: Isaac Pitman & Sons, 1950. 169 pp. $4.50.

Industrial Solvents. 2nd ed. Ibert Mellan. New York: Reinhold, 1950. 758 pp. $12.00.

Elements of Modern Physics. Walter C. Michels and A. L. Patterson. New York: Van Nostrand, 1951. 659 pp. $6.50.

Formulario di Aerosolterapia. Sergio Rocchietta. Turin, Italy: Minerva Medica, 1950. 156 pp. Lire 800.

Paul Ehrlich. Martha Marquardt. New York: Schuman, 1951. 255 pp. $3.50.

Surgical Forum. Proceedings of the Forum Sessions, Thirty-sixth Clinical Congress of the American College of Surgeons, Boston, Massachusetts, October, 1950. Owen H. Wangensteen, Chairman. Philadelphia-London: Saunders, 1951. 665 pp. $10.00.

The Topology of Fibre Bundles. Norman Steenrod. Princeton, N. J.: Princeton Univ. Press, 1951. 224 pp. $5.00.

Bases of Human Behavior: A Biologic Approach to Psychiatry. Leon J. Saul. Philadelphia-London: Lippincott, 1951. 150 pp. $4.00.