A helpful feature is the explanation of the generally accepted International Union of Chemistry (I.U.C.) system of nomenclature. In the chapter on "Heterocyclic Compounds," attention should have been called to the ring index, a *vade mecum* which is indispensable to all students and investigators in this branch of organic chemistry.

Liberally illustrated with structural formulas and provided with tabular summaries of important series and their properties, nearly every chapter concludes with a list of test questions. Considerable attention is given throughout the book to the use of organic compounds in medicine, and the final chapter gives a compact up-to-date review of polymerization, synthetic rubbers and plastics.

The subject-matter is well classified and arranged, lucidly and logically presented, covering the subject admirably within its space limitations, so that the book should prove a very useful and interesting first-year college text and as a foundation for more advanced and more highly specialized courses.

In paper, type, printing and binding in vermin-proof and water-resisting material, the book is up to the usual high standard of all recent Blakiston publications.

MARSTON TAYLOR BOGERT

BIOLOGICAL SYMPOSIA

Sex Hormones. Edited by F. C. KOCH and PHILIP E. SMITH. 146 pp. The Jaques Cattell Press. 1942. $2.50.

THE ninth volume of "Biological Symposia" is a presentation of eight papers delivered in a symposium on "The Comparative Biology and Metabolism of the Testicular and Ovarian Hormones," presented as part of the fiftieth anniversary celebration of the University of Chicago in September, 1941. The book has two sections: I. Sex hormones—their actions and metabolism; II. Hormonal factors in the inversion of sex.

A broad and thoughtful introductory chapter by Professor Carl Moore is followed in Section I by three more meaty disquisitions by Dr. A. T. Kenyon, Professor E. A. Doisy and Professor F. C. Koch. They discuss, respectively, the metabolic influences of gonadal hormones, the metabolism of estrogens and the metabolism of androgens.

Dr. Kenyon's is an informative account in biochemical terms of the purely somatic effects of the sex hormones. It is in essence a description of the pioneering in a field that is bound to expand and develop. His data are derived chiefly from observations on human subjects and thus give point to the need for well-controlled experiments with animals.

Professor Doisy's paper is by contrast an essay in comparative biochemistry. In a balanced survey of the chemical changes undergone by estrogens in the animal body, Professor Doisy brings order to a subject hitherto confused by purely technical difficulties. The informed reader will find this chapter a welcome corollary to Doisy's previous writings in this field.

Professor Koch's lucid chapter is an admirable synthesis of biochemical theory and clinical findings. Proceeding from the studies of androgen and steroid excretion in human subjects, normal and abnormal, to the little-known but highly interesting data on the bacterial metabolism of steroids, Professor Koch develops an excellent general picture particularly of the catabolic fate of androgenic substance. His critical account of modern theories concerned with the origins of androgenic hormones is especially clear and interesting.

In the second section of the book are papers on experimental sex inversion in the plumage of birds (by Professor C. H. Danforth), in Amphibia (by Professor R. R. Humphrey), in the rat embryo (by Dr. R. R. Greene) and in the opossum (by Professor R. K. Burns, Jr.). These papers are concerned in varying degree and detail with the bipotentiality of various somatic responses to endogenous or exogenous androgen and estrogen, particularly in embryonic life. The much more surprising effects of the sex hormones upon differentiation of the embryonic gonads are carefully detailed, from the almost complete sex reversal in certain amphibia to the sterilization in mammalian embryos. The reviewer is struck by the contrast between the biochemical analysis of the first section and the morphogenetic detail of this section. In the study of sex inversion a large biochemical gap needs bridging. The dichotomy of response of gonad cortex and medulla, Mullerian and Wolffian duct, to various steroid hormones has had a real embryological demonstration. A biochemical basis for such dichotomy is woefully lacking.

These factual summary presentations illustrate in part the dramatic development of our knowledge of steroid hormone function. I doubt that Professor Doisy realized in 1929 the consequences of his chemical isolation of theelin. His few crystals initiated the deluge of steroid hormones—androgens, progestins, estrogens, cortins. Their biological activities extend from conception to senescence. Their roles in a host of physiological processes are slowly becoming clear. This book has the special merit of shaping that clarity from a large and formless literature.

GREGORY PINCUS

CLARK UNIVERSITY

VITAMINS

The Biological Action of the Vitamins. Edited by E. A. EVANS, JR.

THIS book, which takes one close to the heart of the problem, is composed of fourteen invitation papers, presented at the fiftieth anniversary celebration of the

University of Chicago in September, 1941. The titles of the papers describe adequately the subjects covered, and the names of the participants are a guarantee of the quality of the contribution. The book will be of particular interest to the serious student and to the progressive physician. A study of it shows how extremely diverse are the various factors which come in its wide range. The contributors realize fully the vastness of the subject and very wisely make no attempt to present a mass of indirectly related experimental data which would merely serve to bewilder. The references are skilfully dovetailed into a clear account. The book is full of stimulating ideas. It is readable, comprehensive and authoritative. In many ways, the present and the past are in conflict, but the references represent the cream of the literature of both. The theories discussed are based upon scientific inquiry and, for the most part, they have proved to be sound.

Each of the fourteen papers is written by an expert who usually attempts to correlate the chemistry, physiology and clinical aspects of the cellular metabolism concerned with thiamine, riboflavin, nicotinic acid, pyridoxine, pantothenic acid, biotin, choline, phosphorus and vitamin K. The delightful personal touch in some of the papers is not often found in scientific publications. Each answers a number of questions but asks many more, especially in the clinical field. In general, the history of the individual members of the vitamin B group is reviewed from the time of their discovery up to and including current investigations. This book is especially valuable for all those interested in working on problems related to the vitamins, whether they be pure scientists or clinicians. Science students interested in the subject will find that it has a great deal of material which will be of value to them.

TOM D. SPIES

REPORTS

THE WORK OF THE ROCKEFELLER FOUNDATION[1]

THE YEAR IN BRIEF

IN 1942 the appropriations of the Rockefeller Foundation amounted to $8,227,867. This is in contrast to $9,313,964 appropriated in 1941. The income of the foundation from investments during the year was $8,271,037, as compared with $8,734,992 in 1941.

The appropriations in 1942 were distributed for the most part in six major fields, roughly as follows:

Public health	$2,700,000
Medical sciences	1,434,000
Natural sciences	815,000
Social sciences	1,326,000
Humanities	982,000
Program in China	122,000

A detailed statement of the appropriations made in 1942 appears at the conclusion of this report, beginning on page 53. Of the money appropriated during the year, 67 per cent. was for work in the United States and 33 per cent. for work in other countries. The amount spent in foreign countries was larger than in any year since 1937, and represents an increase of 30 per cent. over the average of the years 1938 to 1941. This increase is due to two causes: first, the developing program of the foundation in Latin America, and second, the growing needs of the foundation's Health Commission in connection with war activities abroad.

In contrast with the size of public funds now being spent to meet the present emergency, the eight million dollars which the foundation appropriated in 1942 seems insignificant. It is estimated that eight million dollars would take care of the current war expenditures of the United States Government for approximately forty-five minutes. But in times like these, when the intellectual and cultural life of mankind has to be subordinated to a struggle for survival, even a relatively small sum may be used effectively to help build a bridge between what men have valued in the past and what they hope to maintain in the future.

[1] Review of work in 1942 by Raymond B. Fosdick, president.

VALUES NOT EASILY REGAINED

In this "Review," three years ago, under the heading "Night over Europe," an attempt was made to describe the disaster which the war was bringing to universities and laboratories both in England and on the Continent. The processes of disintegration had already begun. Institutions dedicated to the extension of knowledge were being geared into the war machine. The necessities of military mobilization had decimated faculties and student bodies alike. Cultural values upon which civilization is based were being thrown to the winds as the intellectual blackout spread across half the world.

To-day the long shadows of the blackout are lengthening inexorably over the United States. We are fighting for a future in which free institutions can live, but to achieve that end we are sacrificing values which, once they are lost, are not easily regained. The crisis presents us with a problem of delicate balance, how to win the war and at the same time preserve those intellectual ideals and standards, those "great things of the human spirit," without which a military victory would in the end be nothing but ashes. History shows