

most important task—the study of nutrition—though not everyone would agree that “the chief present day mission of biochemistry would seem to be the establishment of nutrition as a science rather than leaving it as one of the arts”. With this in mind he proceeds to the study of the various types of biochemical processes and systems: digestion, blood and lymph, respiration, biological oxidation, carbohydrate and protein metabolism, etc.; and winds up with interesting and up-to-date accounts of the chemistry of hormones and chemotherapy.

The reviewer, a recent recruit to the biochemical field, found the book very informative. To students it will be a mine of information, and it can also be recommended to chemists in general who want a readable and not too lengthy account of what has been going on in biochemistry in recent years. It is up to date, as may be judged from the following matters, which are treated in considerable detail: the penicillins; other antibiotics such as gramicidin, tyrothricin, streptomycin and bacitracin; oestrogenic substances, the pituitary hormones, the gonadotropins, the renin-hypertensin system, folic acid (to a point just preceding the recently announced structural formula of Angier and others). There is a good collection of references for further reading at the end of each chapter, chosen from British and American journals, but excluding other languages.

Many text-books give an unwarranted impression of completeness, and it must be counted a virtue in a text-book if it goes out of its way to emphasize the unknown. A final quotation, taken from an epilogue to the chapter on biological oxidation, will indicate the author's admirable attitude. “In spite of all that is known about bio-oxidation, it is a drama of which the plot is still unsolved. The biochemist is a stage hand. His position in the wings has enabled him to get acquainted with some of the actors (enzymes), to see the properties (foodstuffs) going on the stage . . . to know that the play goes to a successful conclusion. . . . But how the plot works out, he does not know.” The same might well have been written as the epilogue of the whole book.

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into five groups. The groups cover a very wide range from complete aspermia to slight oligospermia. These extreme cases are, of course, easily diagnosed from the semen characteristics, but the author does not make clear what degree of reliability can be attached to the results of semen examination, and how accurately they can be used for the diagnosis and prognosis of less extreme cases of impaired fertility. There is no critical analysis of the case histories.

A short section of the book is devoted to chemical experiments with human sperms. The author's own experiments are neither extensive nor very conclusive.

The section on the enzymes of the semen is confusing. This is partly due to the limitations of the material. Human semen samples, especially clinical specimens, are of small volume, contain relatively few sperms and have a high but variable content of the accessory fluids. They are therefore not very suitable material for the study of the metabolic processes of the sperms. On the other hand, the semen of the domestic animals is available in good quantity and makes ideal material for enzymic studies on the respiratory processes. It is unfortunate that the author has not had access to the recent work on sperm metabolism carried out on farm animals in the United States and Great Britain. His own experiments deal primarily with reactions in the seminal fluids and have little bearing upon sperm metabolism.

The section on the biology of the human spermatozoa is confined to a study of survival in the female tract. The author found motile sperms in the vagina up to fifty-five minutes, in the cervix up to forty hours, and in the uterus up to twenty-five hours.

A very short chapter on the role of the marriage partners in sterile marriages completes the book. It is estimated that about 49 per cent of sterile marriages are due to the male. In about 25 per cent sterility could not be attributed to either partner by clinical examination.

ARTHUR WALTON

8/6  
CLINICAL STUDIES ON MALE FERTILITY

Studien am menschlichen Sperma  
Von Charles A. Joly. Pp. 154+10 plates. (Basel: Benno Schwabe and Co., 1942.) 20 Swiss francs.

PART I of this book is a review of seminology from ancient to modern times. It is well documented with references, but is little more than a list of authors and their discoveries arranged in historical order. It fails to arouse interest in a subject which might have been presented as one of the most important in biology and medical science.

The second and principal part of the book deals with the investigation of human semen from the clinical point of view, and is largely based upon the author's examination of more than a thousand semen samples. Methods of collection, preparation and examination for sperm density, motility and morphology are described very fully. This section of the book will be most useful to the clinician.

According to the characteristics of the semen samples the author divides cases of impaired fertility

REVIEWS OF CURRENT PHYSIOLOGY 10/6

Annual Review of Physiology  
Edited by James Murray Luck and Victor E. Hall. Vol. 8. Pp. viii + 558. (Stanford University P.O., Calif.: Annual Reviews, Inc.; London: H. K. Lewis and Co. Ltd., 1946.) 5 dollars.

IT is the declared editorial policy of the “Annual Review of Physiology” that a review should not only survey the recent contributions to the field but also “appraise them critically and evaluate with discrimination the present status of the subject”. Of the twenty-five reviews which comprise Vol. 8, 1946, many fall short of this ideal. The reviews of energy metabolism, respiration, physiology of the skin, digestive system, liver and bile, blood coagulation, blood cytology, heart, reproduction, are, for the most part, uncritical compilations of published data. The reviewers of applied physiology, aviation medicine and the physiology of heat and cold have been considerably hampered by the continuing ban on the publication of much war-time research; but a considerable amount of new work on the effects of climatic extremes and anoxia is covered. Nerve and