spiratory system, diseases of the kidney and urinary tract, diseases of the blood, diseases of the cardiovascular system, and metabolic and endocrine disorders. Chapter eight deals with clinical laboratory studies in surgery and chapter nine with clinical laboratory studies in obstetrics. In an appendix, the author, with the assistance of A. E. Moon, has presented a rounded-out discussion of laboratory aids in symptom diagnosis.

The book is well written and the author has selected wisely among the plethora of tests now available. Although the volume is neither a textbook nor a laboratory manual it is highly recommended for the practicing physician and the medical student.

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Haemoglobin: A Symposium Based on a Conference Held at Cambridge in June 1948 in Memory of Sir Joseph Barcroft. F. J. W. Roughton and J. C. Kendrew, Eds. London: Butterworths Scientific Publs.; New York: Interscience, 1949. 317 pp. $8.50.

Sir Joseph Barcroft was remarkable at least as much for his human qualities as for his outstanding scientific achievements. In his courage, vitality, and enthusiasm, and his affectionate understanding of other human beings, he aroused in his associates personal loyalty and devotion that is given to few scientists. He died suddenly in 1947 at the height of his activity, although he had been retired from his professorship for ten years, and the depth of his influence can be felt in reading the proceedings of this conference, which give a vivid and comprehensive summary of our present knowledge of hemoglobin.

The volume opens with personal tributes to Barcroft, and reminiscences, by E. D. Adrian, Sir Henry Dale, A. S. Krogh, C. G. Douglas, A. V. Hill, R. A. Peters, G. S. Adair, and F. J. W. Roughton. All are admirable and well worth reading, both for those who knew Barcroft personally and those who did not. They help to round out the picture of the man that one obtains from his own vividly written books and papers.

The rest of the present volume is concerned with current investigations on hemoglobin, many directly inspired by Barcroft himself. Here it is impossible even to mention all. Important considerations on the fundamental structure of hemoglobin are advanced by L. Pauling, J. Wyman, Jr., M. F. Perutz, and several others. J. C. Kendrew presents important conclusions, derived from x-ray studies, on the crystal structure of horse myoglobin. The molecule appears to consist of a single layer of folded polypeptide chains, with the plane of the heme group nearly at right angles to the protein layer. This corresponds to Perutz's four-layer structure for horse hemoglobin. Kendrew and Perutz also supply a helpful general discussion of x-ray crystallography of biological macromolecules, addressed to the nonexpert. Important data on amino acid composition are given by G. R. Tristram and by A. Rossi-Fanelli. R. R. Porter and F. Sanger discuss the terminal amino groups of the peptide chains of several hemoglobins, with interesting zoological correlations. E. M. Jope gives valuable data on absorption spectra. There are several studies on the important problem of the differences between adult and fetal hemoglobins; notable are the solubility studies of H. M. Jope and J. R. P. O'Brien, and of M. J. Karvonen. G. S. Adair, and H. Gutfreund, discuss important osmotic pressure studies. H. Barcroft, Q. H. Gibson and D. C. Harrison, and also W. N. M. Ramsay, have valuable contributions on ferrihemoglobin (methemoglobin) in normal blood and in disease. C. Rimington discusses the biosynthesis of heme. F. J. W. Roughton, J. W. Legge, and P. Nicolson present briefly their new data on the kinetics of hemoglobin in solution and in the red cell, and Roughton treats the intermediate compound hypothesis, with conclusions differing in important respects from those of Wyman; these and other disagreements which the reader will note in the book should stimulate further research. D. L. Drabkin describes his work on the accurate determination of the oxygen dissociation curve; H. E. Davenport describes the extraordinary hemoglobins of the worm *Ascaris*, and H. P. Wolvekamp discusses hemocyanin.

Many of these papers briefly present conclusions published elsewhere in greater detail. Others give information which as yet can be found nowhere else. Every contribution deserves close attention, and, in spite of its high price, the book can be recommended most warmly to everyone interested in the structure of this extraordinary class of macromolecules. It is a worthy tribute to Barcroft, whose living influence inspired the conference and the book which issued from it.

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Malariology: A Comprehensive Survey of All Aspects of This Group of Diseases from a Global Standpoint. Mark F. Boyd, Ed. Philadelphia-London: W. B. Saunders, 1949, 2 vols. 1643 pp. $35.00 a set.

The reviewer cannot do better than quote, as the purpose of this book, the opening sentence of the foreword: "It has been the Editor's intention to make this volume a working manual of malariology, a comprehensive and adequate review or factual survey of all available knowledge relating to malaria objectively presented and brought down to date."

This objective is reached with the aid of 65 contributors who have dealt with the problems of malaria from either an abstract or practical standpoint. There are 70 chapters grouped in five sections as follows: Section I. Introduction, one chapter; Section II. Parasitology, eight chapters; Section III. Definite Hosts, 15 chapters; Section IV. Intermediate Host, 25 chapters; Section V. Control and Eradication, 21 chapters. In Appendix I, the equipment for field and laboratory investigation is listed with descriptions and available sources. Appendix II is captioned: Provisional Directory of Manufacturers and Distributors of Equipment and Supplies for Anti-Anopheline Operations. The author and subject indices are unusually comprehensive, occupying 153 pages. The first 31 chapters are in Volume I; Chapters 32–70, with the appendices and indices, compose Volume II.