SCIENTIFIC BOOKS

CLINICAL PARASITOLOGY

Textbook of Clinical Parasitology. By DAVID L. BELDING, M.D. xxi + 888 pp. 279 figs. New York and London: D. Appleton-Century Company. 1942. $8.50.

MILLIONS of persons, particularly those in tropical and subtropical regions, suffer from parasitic diseases, and competent observers have maintained that animal parasites cause greater morbidity and mortality than all bacterial infections. The historical record shows clearly that the great epidemics which have decimated populations have been caused by animal parasites or agents transmitted through arthropod vectors. Furthermore, it is the prevalence of such diseases which has in large part prevented the exploitation of some of the richest and most productive areas of the world. Through their colonial interests, the British, Germans, French, Dutch and Belgians have long recognized the importance of parasitic diseases and have developed strong departments of parasitology in their medical schools. Those of London, Liverpool, Cambridge, Hamburg, Paris, Amsterdam and Antwerp are notable examples. Many young physicians went from Europe to the colonies and training in tropical diseases became an essential part of medical education. Several of the leading physicians of Japan and the Orient have studied in one or more of the schools mentioned above and have carried European methods and practices to the Far East.

Until very recently, American physicians have given little attention to animal parasitology, and instruction in the subject at our medical schools has been of the most desultory character. With notably few exceptions, the diseases caused by animal parasites have been considered incidentally in courses devoted primarily to other subjects, such as bacteriology, pathology or public health. Indeed, Dr. Belding's title is professor of bacteriology and experimental pathology. Independent departments of parasitology, staffed by experts, have been absent in American medical schools and much of the fundamental research in the subject has been done by zoologists and veterinarians. The development of aerial transportation, rapid and extensive travel, movements of large military and civilian populations, the search for new sources of essential raw materials, interest in Latin America, and especially the entry of the United States into the present world conflict, have produced a decided awakening of the American medical profession. The realization that parasitic diseases are of major significance and that they are not limited to tropical countries is reflected in the new text-books now appearing. Evidence of the increasing American interest in parasitology is afforded by the recent text-books by Chandler (6th edition, 1940), Craig and Faust (1937), Hegner, Root, Augustine and Huff (1938), Culbertson (1941), Belding (1942), and a forthcoming one by Pearse. These American books, since they differ in the emphasis placed on various aspects of the subject, constitute a valuable addition to the foreign texts. Probably none of them, however, is the equal of Brumpt's "Précis de Parasitologie" in completeness or authoritative presentation. With excellent text-books in the English language now available and with a changed attitude on the part of American physicians, medical students in the United States may expect to receive more adequate instruction in the diseases caused by animal parasites.

The book by Belding is well conceived, logical in organization, and contains a wealth of information. It is well adapted for a general introductory text but has little value for specialists or research workers. It is essentially a compilation of relevant information, although too often the material has been taken from secondary rather than original sources. The publishers have produced other text-books in the same and related fields and many of the figures used in Belding's text have been published previously. This fact does not imply that the book is poorly illustrated; on the contrary, its chief value lies in the arrangement of subject matter and in the diagrams, charts and tabular treatment of data which facilitate comparison of related species, understanding of life cycles and rapid organization of material. The diagnostic characters of species, however, are sometimes too brief for positive identification. French and German sources have not been used to full advantage, latest information is not always included, while the bibliography lists earlier rather than the last editions of such standard text-books as those of Chandler, Manson-Bahr and Mönnig. Belding has presented the essential facts of parasitology, although the treatment of the material is general rather than critical. The first section devotes 12 pages to parasites and 55 pages to general aspects concerning the pathology, immunology, transmission, diagnosis, treatment and prevention of parasitic diseases. These subjects are reconsidered specifically for each parasite in later sections. Section II deals with the pathogenic Protozoa, Section III with nematodes, Section IV with cestodes, Section V with trematodes, Section VI with arthropods and Section VII with technical methods for diagnosis and treatment of parasitic infections. The section on technical methods forms a valuable adjunct to the text and is limited, perhaps wisely, to generally accepted procedures. In the portion dealing with fecal examination for eggs of worms, although the author

lists the Hamburg method for counting ova, he did not mention the Telemann method of stool examination, which is the one routinely used in the Hamburg laboratory. This method was given by Vogel in "Krankheiten und Hygiene der warmen Länder," by Ruge, Mühlens, zur Verth *et al.* (1938), an excellent treatise on tropical medicine which was reviewed in the *American Journal of Tropical Medicine,* 18: 733–34, but was not cited by Belding.

In his "Textbook of Clinical Parasitology," Belding has listed the intermediate and reservoir hosts of the animal parasites of man, but the reviewer is of the opinion that texts on human parasitology could be made clearer and more valuable if comparative material from the study of similar parasites in lower animals were included. Most of the parasites of man can be transmitted to lower animals and probably were acquired from them. Present knowledge concerning human parasites has been obtained, in large measure, from study of the same or related species in non-human hosts. Advances in the control of yellow fever were held back for twenty-five years, until a susceptible experimental host was found in the rhesus monkey. Since the principles and methods of human and veterinary medicine are identical, and since fundamental researches on domestic and laboratory animals have afforded many of the data on which human parasitology is predicated, familiarity with these investigations should be beneficial to medical students.

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REPORTS

METALLURGICAL RESEARCH[1]

DR. FRANK B. JEWETT, president of the National Academy of Sciences, announces the results of eighteen months' operation of the Metals and Minerals Advisory Committee of the academy work of the new War Metallurgy Committee.

The Metals and Minerals Advisory Committee for the past eighteen months has furnished OPM and WPB with 113 reports. Fifty-three of these were on metals substitution and conservation; 47 on ferrous minerals and ferro-alloys; 4 on tin smelting and reclamation, and 9 on non-metallic minerals.

These reports, prepared by the various subcommittees of the Advisory Committee, dealt principally with the problems arising from the necessity for allocation and substitution of materials, not only for general civilian uses, but even more particularly for War Production processes and increased production of war materials.

The work of this Advisory Committee has been greatly enlarged since Pearl Harbor and is to be still further increased as it functions with and for the new War Metallurgy Committee. Clyde Williams, director of Battelle Memorial Institute, Columbus, Ohio, and chairman of the Advisory Committee, is also chairman of the new War Metallurgy Committee which has primarily been set up to appraise and conduct needed research work—for the Army, the Navy and other governmental departments as well as industry.

It is the function of this committee to collect data and information as requested by either the War Production Board or the Office of Scientific Research and Development, through its National Defense Research Committee, and to plan, present and supervise definite research projects for either war materials or armaments.

The War Metallurgy Committee, and its Advisory Committee is set up to function as the nerve center for all metallurgical research organizations and departments in this country—since, depending upon the problem involved, the heads of any business, university or research organization can be counted upon by this committee to make available the experience of their metallurgical scientists and engineers or their laboratory data.

Thus, this committee makes available for the Army and the Navy, through either the War Production Board or the Office of Scientific Research and Development, the services of any or all metallurgical research, personnel and facilities. There are in excess of 10,000 such individuals in this country, and their combined experience represents well over 125,000 man years.

One of the basic considerations in the operation of the committee, is that of the saving of time, the saving of mistakes and the saving of money. When the problem is proposed, through either the War Production Board or the Office of Scientific Research and Development, immediate action can be obtained by telephone communication with the leading scientists on that particular subject; initial committee meetings are often held within twenty-four hours, and, if the request is urgent, within that same day, a plan of procedure is laid down and submitted.

Every one in this country, and scientists and industrialists are no exception, is naturally anxious to contribute everything he can toward winning the war. New thoughts, new ideas, new short-cuts, are constantly coming to the front. While it is not the place

[1] Report of Louis Jordan, executive secretary of the War Metallurgy Committee of the National Research Council, Washington, D. C., June 30, 1942.