tional duty. The fact that he is not a commissioned officer will indicate that his training as a scientist is not of primary importance to the army. The fact that a position is waiting for him means that his discharge would contribute to orderly demobilization. Postwar expansion of the national scientific program will require the aid of exactly the age group in question as teachers and leaders.

KARL P. SCHMIDT
CHICAGO NATURAL HISTORY MUSEUM

SCIENTIFIC BOOKS

CLINICAL MYCOLOGY

Manual of Clinical Mycology. Prepared under the auspices of the Division of Medical Sciences of the National Research Council. 348 pp. Philadelphia and London: W. B. Saunders Company. 1945.

THIS war manual is useful for the general practitioner, as well as for the clinical pathologist. We can accept the mycologic nomenclature and taxonomy of Dr. Conant with complete confidence. The medical authors have cooperated to produce a volume that is practical and scientific from the point of view of the pathologist as well as the dermatologist.

Surgeon General Kirk, in his "Foreword," recognizing the need for such a book, has stated, "In many places in this country medical mycology is a field of esoteric interest." Probably the best definition of esoteric is understood by the initiated alone.

Surgeon General McIntire states that the book is to be highly recommended for its timeliness and soberness of presentation, and that "Treatment is definitive and modern."

In the first edition of my little manual of clinical pathology (1908) I had the advice of our great parasitologist, Dr. Charles W. Stiles, but for mycology I was at a loss for guidance. Fortunately, I found a book which, I felt, was authoritative, written by L. Gedoelst, and published in Brussels, in 1902. Since then I have also been guided by Vuillemin and Brumpt. One reason for my preference for French parasitologists has been that Dr. Stiles considered the French far superior to the Germans in accuracy of nomenclature. Dr. Stiles was for many years the secretary of the International Committee on Zoological Nomenclature.

In the last edition of my book, at the recommendation of Dr. Thom, I turned to the splendid work of Professor Dodge ("Medical Mycology"). Dr. Stiles regarded our American nomenclaturists as on a par with the French.

In the excellent chapter on Cryptococcosis the name of the fungus is given as *Cryptococcus neoformans.* I have discussed this most serious and important invader of the central nervous system under the name of *Cryptococcus histolyticus* (*Torula histolytica*), and designating the disease as torulosis. It is evident I shall have again to consult my mycology friends.

The chapters on Coccidioidomycosis, South American Blastomycosis, Chromoblastomycosis and Histoplasmosis give us detailed, easily understood and recent information as to these diseases.

The bibliography is of great aid to teachers of mycology. The illustrations are well chosen.

Vice Admiral McIntire importantly states, "Our tropical warfare, particularly in the bush jungles of the South Pacific, has fostered fungus growth to a crippling degree."

There is an editorial in *The British Medical Journal* of May 13, 1944, which states, in connection with reconversion postwar changes in medical education: "Most of the text-books of the present must go on the reference book shelf, where they properly belong, and new text-books must be written and practical courses prepared, directed to study of method and principle."

This little war manual, prepared by staff members of the Duke University School of Medicine, including a pathologist, a dermatologist, an internist and a trained mycologist, submitted their manuscripts to Dr. Martin, who coordinated the various sections to make the style more uniform.

This would seem to be the type of book the British had in mind.

Since the preparation of this manual of mycology a very disturbing piece of research work by the Tuberculosis Control Division of the Public Health Service has appeared (Carrol E. Palmer, May 11, 1945). This deals with nontuberculous pulmonary calcifications and sensitivity to histoplasmin. This throws doubt on the validity of chest plates used as a basis for rejecting persons for the armed services.

Epidemiological surveys were made in widely separated areas of the United States, and striking variations were obtained as to percentage of histoplasmin reactors. Data as to tuberculin and histoplasmin tests with roentgenograms on 3,105 student nurses were studied.

The greatest incidence of such pulmonary calcifications, in nurses showing histoplasmin reactions, was found in Kansas City, Mo. (61.5 per cent.)—in Philadelphia, Pa., only 11.8 per cent.

The histoplasmin was supplied by Dr. C. W. Emmons, of the National Institute of Health.

Earlier reports were made by Olson, Wright and Nolan, of the U. S. Public Health Service, as to the nature of pulmonary calcifications in those not showing clinical or tuberculin-test evidence of tuberculosis.

Interesting to zoologists, is the research work as to the possibility that these nontuberculous pulmonary calcifications might be connected with *Ascaris* larvae passing through the lungs. It was concluded that the epidemiological study did not prove or disprove the possible rôle of *Ascaris*.

In talking with Dr. Emmons, he took a conservative view as to definitely incriminating *Histoplasma capsulatum*, notwithstanding the frequency of positive histoplasmin reactions, as contrasted with coccidioidin ones.

Following World War I there were many cases of infection with *Coccidioides immitis* reported from California, and the burden of evidence indicated a fatal termination.

As noted in this war manual it is now recognized that there are types of coccidiomycosis which are relatively benign, with cases reported from Texas, Arizona and New Mexico. In Arizona from 75 to 97 per cent. of Indian children reacted positively to coccidioidin. Positive coccidioidin tests were essentially negative among the nurses except for nurses who had lived in California or southwestern parts of the United States.

Histoplasmosis too had been formerly considered as a fatal infection.

I heartily recommend this timely and authoritative war manual to clinical pathologists.

E. R. STITT,
Surgeon General, U. S. Navy, retired

DAIRY CATTLE BREEDING

Heredity in Dairy Cattle. By JAMES E. RUSSELL. 135 pp. Illustrated. The American Guernsey Cattle Club, Peterborough, New Hampshire. 1944. $2.50.

THIS book by James E. Russell, formerly dean of Teachers College, Columbia University, and for many years a breeder of Guernsey cattle, is intended as a guide and inspiration for the successful business man and young person considering the breeding of cattle either as a vocation or avocation. It is not, as its title might imply, a scientific treatise on inheritance in cattle.

In his preface the author pays tribute to the scientific workers who have discovered the underlying principles of inheritance, but says that Part I is to treat of the "few important biological principles which have a direct bearing on the breeding of dairy cattle . . . and not to be greatly concerned with the methods of scientific procedure or the successive stages by which reliability of findings has been established . . . we stress the action of genes rather than the behavior of chromosomes . . . and will avoid concise technical terms like gamete, heterozygote, etc." Part II is to be the story of some successful breeders and a cattle family. Part III, personal experiences.

Part I, Theory of Genetics, while generally in keeping with present knowledge of inheritance, contains many loose and ambiguous statements of which the following are examples:

> In effect, only *one-fourth of the possible combinations of chromosomes* in the two original sex cells which unite in the fertilization of an egg cell do appear in the resulting new individual. . . .
>
> The necessity of getting rid of half the chromosomes in maturing sex cells in order that the standard number of the species be restored at the time of conception raises questions of special interest to breeders. Is it merely a matter of chance that decides what each offspring of a particular pair gets? *May it happen that one member of a family gets more from one parent than do brothers or sisters? Or, in an extreme case, may one offspring get its inheritance solely or largely from one parent and little or nothing from the others?* . . .
>
> We know now that nothing except external physical injury can disturb the normal development of an unborn child. . . .
>
> In animal breeding there is no escape from the necessity of dealing with a "mixed lot." However, Mendel pointed out that each character operates as a unit and that whenever two are opposed, one becomes dominant and the other recessive while biding its chance to appear again.

The author's attempt to popularize the genetics of cattle is on the whole not too successful, although he has made it interesting and woven a lot of his own philosophy of life into it. The halving and sampling nature of the hereditary process, for example, is nowhere made clear.

Part II deals with the art of breeding and for illustrative material the author discusses a successful small herd, a large commercial herd, his own herd and the Mixter Faithful strain of Guernseys.

The small herd and farm is that owned by Vernon D. Mudgett at Sterling Junction, Massachusetts. Mr. Russell has woven an interesting and inspiring story of Mr. Mudgett's accomplishments. Taking over an old somewhat run-down farm when just out of college, Mr. Mudgett, with a cash start of only $1,000, has developed a very profitable farm business and one of the best small Guernsey herds in the East. By hard work; careful planning; being ever ready to learn and to try out new methods; by making old things do until cash was available to provide the new; and last but far from least, by choosing the proper sort of girl for his wife and helpmate Mr. Mudgett has, relatively early in life, established himself as one of the leading farmers and breeders in his state.

Mr. Russell correctly stresses the advantages of diversification for the small farmer using Mr. Mudgett's experiences with poultry, fruit, milk and