

the professor of tropical medicine at the Louisiana State University in New Orleans, and the occupant of a chair in the University of Rome.

The autobiography vividly illustrates his three major passions: the foremost is his interest in research, which early in his life led to the establishment of his reputation by the discovery of trypanosomes in the cerebrospinal fluid of cases of sleeping-sickness, and which to-day, at the age of over 80, impels him to maintain and study cultures of pathogenic fungi in his laboratory in Lisbon; the second passion shows him in the role of court physician, a survivor of a past age when men of our profession were not infrequently in the inner councils of their king; the third passion of his life is anglophilia, which began when he was a boy in Florence and easily survived the last war—hardly surprising when one remembers the numerous patients, colleagues, and relations he has accumulated in this country. They and many others will read this book with interest and pleasure.

P. C. C. GARNHAM.

BIOCHEMISTRY OF BLOOD

Biochemistry of Blood in Health and Disease. By I. Newton Kugelmass, M.D., Ph.D., Sc.D. (Pp. 543+ix; illustrated. £6 6s.) Oxford: Blackwell Scientific Publications. 1959.

This book deals with the blood and its chemical, humoral, and cellular constituents. It has been inspired by our increased ability to measure these constituents as the result of developments in biochemistry, chromatography, electrophoresis, radioisotopes, and the large-scale manufacture of many new types of analytical apparatus.

Part I deals with the blood as a medium for the transport of proteins, nitrogen compounds, carbohydrates, and lipids. Part II is about blood as part of the regulatory system whereby water, electrolytes, vitamins, enzymes, hormones, and other substances involved in the maintenance of the relatively constant internal milieu are appropriately controlled. Part III discusses the blood, and in particular its cellular constituents, as a defence system against injury, shock, and infection. These are large topics to deal with, as it were, through the agency of a blood sample.

Just as one may get new pictures by shaking a kaleidoscope, so a rearrangement of familiar material or concepts may give new insights into the processes of disease; but though the book is clearly written it is doubtful whether Dr. Kugelmass has really succeeded in this aim. For example, his chapter "Blood as a Carrier of Tissue Minerals" tells us a certain amount about the distribution of sodium, potassium, and chloride in different compartments of the body and their movement between these compartments, but one is much more interested in the regulation of these substances by the kidneys and the adrenals than their carriage in the blood. There is, in other words, a great deal of information in this book, but one cannot see any obvious advantages in having collected it in this way. Moreover, it is almost certainly far too large a subject to be handled by a single author. The references at the end of each chapter are at first sight impressive, but too small a proportion come from the last five years. Modern views on the relation between direct and indirect bilirubin and on the inborn errors of bilirubin metabolism do not appear to have been noticed. The book is well produced, with a good index, and is printed on a large page in double column. L. J. WITTS.

ECOLOGY OF PESTS

Consequences of Disturbance. The Pest Situation Examined. By Alan Mozley, D.Sc., Ph.D., F.R.S.E. (Pp. 61+x. 9s.) London: H. K. Lewis and Co., Ltd. 1960.

This short monograph extends the series by Dr. Mozley expounding his ecological approach to the study and control of pests, particularly the molluscan pests conveying fluke infections to man and animals. He contends that after natural or man-made disturbance of the environment organisms with limited tolerance are eliminated, and in the absence of competition the growth of opportunist species is unrestricted and they tend to become pests. The schistosome vectors exemplify this, being scanty in undisturbed, uninhabited country, but very numerous in collections of artificial water such as dams and irrigation canals.

One of the important tasks of this age is to reduce the enormous losses caused by pests. A problem of this nature is generally exceedingly complex, and judgment and discrimination are required in selecting control measures. The author deprecates reliance on strong insecticides or molluscicides alone and advocates biological and ecological methods of controlling expansion of the pest population. It is known, for example, that some strains of snails resist schistosome infection which enfeebls susceptible strains; in a mixed community natural selection would favour the resistant strain. The author suggests using genetic measures such as this, or modifying the environment to the detriment of the pest species. He makes a plea for the encouragement of individual investigators rather than unwieldy teams, and he stresses the need for basic research, particularly into the ecology of pest communities instead of the study of individual species and environmental factors.

The author uses ecological terms which are often incomprehensible to the ordinary biologist. The book presents theses for the consideration of the research worker rather than advice to the field hygienist, who will not find it of practical value though the point of view may interest him.

T. H. DAVEY.

HUMAN PATHOLOGY

Principles of Human Pathology. By Edward B. Smith, M.D., Parker R. Beamer, Ph.D., M.D., Frank Vellios, M.D., and Dale M. Schulz, M.S., M.D. (Pp. 1,123+xi; illustrated. 95s.) New York and London: Oxford University Press. 1959.

The authors have arranged the contents of this new book so that the student is introduced to the general disturbances of function and structure in the first few chapters, and these are the best chapters in the book. That on the disturbances and regulation of blood sugar is an excellent example of what can be done in this respect. In the later chapters, where the diseases of the various systems are described, there does not seem to be the same new approach that is indicated in the more general sections, and the student will find it difficult to accept certain bald statements which are not supported by discussion. There is the inevitable difference in stress between subjects—for example, forensic pathology is dealt with in eight pages, and is altogether too condensed to be of much value, whereas rheumatic fever alone occupies seven pages and is adequate. The chapter on diseases due to the inhalation of dust is better, and does provide the student with the varying theories of causation which are at present under discussion. One of the best sections of the second half of the book is devoted to the kidney, and here the