

BOOK REVIEWS

The Beagle Described

The Beagle as an Experimental Dog. Edited by Allen C. Andersen. Technical Editor: Loraine S. Good. Pp. xiii + 616. (Iowa State: Ames, Iowa, August 1970.) \$17.50.

THE object of this book is to collect together all the information available on the husbandry, anatomy and physiology of the beagle, for this breed of dog is now extensively used as a laboratory animal. This has set the editor a difficult task in deciding what should be included, for, apart from its conformation, the beagle does not differ in any fundamental sense from other breeds. What then should an editor do? Should he rigorously confine the book to factual information on the anatomy of beagles and of weights and measures taken from beagles at all stages of life, or should he allow greater scope to his contributors so that they write about dogs with reference where possible to the beagle? The editor, with and without a co-author, has contributed about one quarter of the text, and although he has taken the first criterion as his objective, many of his contributors have not. The result is a curiously unbalanced book, for as soon as the subject matter leaves topographical and gross anatomy for profusely illustrated histological description, it becomes general and more detailed than is necessary. The fact that much of the material described is taken from beagles seems beside the point, and the question has to be asked whether it is worthwhile making such detailed studies on beagles, simply because they are beagles. It may be that in doing so detailed information about dogs that has not been described before has come to light, but the text gives no indication that this is so. It is estimated in the preface that about one third of the material in this book has not been published before. The very large number of histological and electron micrograph plates included is evidence of this. These are well reproduced but I question whether many of them are strictly necessary.

In spite of this general criticism, there is much in this book that is useful. The first five chapters deal with suitable kennels, with the management of large beagle colonies and with their nutrition, breeding and growth. Later short chapters on the microbiology of the alimentary and respiratory tracts and on pathological conditions and the incidence of disease experienced in large beagle colonies are valuable for anyone concerned with this breed. The topographical anatomy, the skin and the skeleton of the beagle are dealt with in a comprehensive way, while chapters on the teeth,

mineralization of bone, the cardiovascular, respiratory, reproductive, endocrine and central nervous systems and on the eye can be taken as general texts for the dog. All these chapters contain basic measurements derived from beagles, many of which are tabulated and form excellent reference material. Two very short chapters on the alimentary tract and renal system are rigidly confined to a few basic measurements from beagles, although the information on these systems for dogs generally is voluminous. The behavioural development of the pup and of the reactions of adults to different circumstances contains no surprises for those who are accustomed to dogs.

Useful chapters on the haematology and blood chemistry from birth onwards are included, together with chapters on the genetics and cytogenetics of the beagle. Finally, a few short notes on various laboratory and clinical techniques are given.

This book hovers between being a *vade mecum* on the beagle as a laboratory animal and an incomplete treatise on the dog. Even so it will be a useful addition to libraries that service those who undertake experimental and clinical work with dogs.

A. T. PHILLIPSON

Analysis Writ Small

Micromethods for the Clinical and Biochemical Laboratory. By Hermann Mattenheimer. Pp. vii + 232. (Ann Arbor: Ann Arbor and London, July 1970.) \$18.75.

THE saving in time, chemicals and bench space makes the use of microlitre methods in biochemical laboratories especially attractive, while their application in pediatric work is essential. Dr Mattenheimer's translation of the second German edition of his well known book is a timely addition to the English-reading biochemist's bookshelf. The author's *modus operandi*, perfected over a decade, has been to adapt tested macromethods so that the accuracy of the resulting micromethod is equal to that of the original technique. In the ultramicro-methods described in the text—which include the weighing of tissue samples in μg quantities—the coefficient of variation rarely exceeds 5 per cent.

A chapter of twenty-five pages is devoted to a critical review and description of European and American commercial equipment for microlitre analysis, together with practical instructions for the construction and use of accessory devices. Microchemical operations are fully described, with good illustrations. The chief part of the book presents classified methods, which are set out with

great clarity, and divided into enzymatic and purely chemical determinations. Chemical methods, with variants, are given for eighteen routine clinical determinations. A notable feature of this book is that methods for the determination of seventeen enzymes have been adapted and tested by the author. The determination of nine enzymes by ultramicro-methods is described; five of the enzyme determinations are based on fluorimetric methods for pyridine nucleotides developed by O. H. Lowry.

Dr Mattenheimer's book merits the serious consideration of all biochemists.

JOHN RUSSELL

Parasitic Worms

An Ecological Approach to Acanthocephalan Physiology. By D. W. T. Crompton. (Cambridge Monographs in Experimental Biology, No. 17.) Pp. vii + 125. (Cambridge University: London, 1970.) \$9.50; 56s.

RESEARCH on the Acanthocephala seems, paradoxically, to have been both retarded and encouraged by the lack of any great economic or medical importance which can be attributed to this group. Such research has, on the one hand, been rather limited in volume and depth, but on the other it has enjoyed freedom from any restriction which might have been imposed by a need to attack problems of an applied nature. Studies on acanthocephalans can be pursued purely for the purpose of discovering how these parasites live and work. This book emphasizes the potential of the Acanthocephala as experimental animals.

Dr Crompton is a leader in the current development of fundamental research on the Acanthocephala, but he is far from being an ivory tower specialist on a slightly obscure group of worms. His book will be welcomed by parasitologists in general, both for the information it contains and for the clarity and rigour of his approach to problems of general importance concerning the parasitic way of life.

The book has two stories to tell. One is a straightforward and authoritative account of the structure, function, and way of life of acanthocephalans, including such topics as hatching, movement, feeding, metabolism, growth and development, and reproduction. The other is ecological, and deals with the relationship between a parasite's physiology and its environment. As larvae, acanthocephalans inhabit the arthropod haemocoel, and as adults the intestine of vertebrates. These two habitats are discussed by reference to the hosts of *Polymorphus minutus* and *Moniliformis*