post-natal growth and development, while further chapters deal with the use of the genus in pharmacological and aerospace research. The volume concludes with an account of the husbandry of the animal, thus contributing to one of the stated purposes of the book—to provide information relating to the veterinary care of the animal.

The new information contained in this volume, while demonstrating the present unevenness of knowledge of the genus, provides a baseline when the animal is used in applied or semi-applied research. It is even more significant in relation to corresponding new findings from other primate genera. More than thirty years ago, sufficient information had accumulated to enable pioneering enquiries to be made into the extent to which contrasts in physiological and behavioural features correlate with accepted taxonomic schemes of the primates. The extension of such studies to include even the incomplete data subsequently made available, and especially those assembled during the past decade, is a study of potentially enormous proportions. ERIC H. ASHTON

RELIEF FROM THE APE

Bird Vocalizations

Their Relations to Current Problems in Biology and Psychology. (Essays presented to W. H. Thorpe.) Edited by R. A. Hinde. Pp. xiii+394. (Cambridge University Press: London, September 1969.) 85*s*; $13.50.

AT a time when ethology tends, in the popular mind, to be associated with flamboyance and facile penmanship; when, apparently, the proper study of mankind is ape; this book comes as a reassuring relief. It is the retirement festschrift for a man who, though in the forefront of ethology, still has the strength of reticence. It deals with an aspect of animal behaviour where advances still come through the painstaking accumulation of factual data and their rigorous analysis.

It was a wise decision to restrict the coverage to one facet of Professor Thorpe's influence in ethology, albeit one that he has especially illuminated. To have attempted to represent all the contributions to ethology which he has made, either directly or through the many students subjected to his kindly influence, would have needed a much larger volume. There would have been the risk, too, of its joining the ranks of the amorphous, indigestible conglomerates whose advance notifications fill our waste paper baskets.

The book is beautifully edited. Not only has Professor Hinde chosen his contributors with care and arranged their essays with skill, he has emphasized the relation these studies have to the broader fields of biology and psychology. This he has done in a succession of brief introductions to each group of papers. His essays are both a delight to read and impressive in their range and grasp. The general student will profit greatly from them alone, even if the detail of some of the contributions may prove too much for his concentration.

The first contribution discusses the tonal quality of bird song and effortlessly makes clear to the uninitiated just what sound spectrograms are and why their use has revolutionized analytical study. Then follow three papers on development, including experimental deafening, the ethics of which have been so hotly debated in recent months. Central nervous, hormonal and social control of vocalizations are considered in a group of physiological papers, and functional aspects in another four. Of particularly wide interest are the evolutionary papers, bearing on ecology, systematics and geographical variation.

Two final chapters on the literary and aesthetic aspects, although remarkably erudite, do serve as something of a refreshing dessert after a rather heavy if impeccably cooked meal. How pleasant it is when Li T'ai-po "hails us across the centuries", even if his poetry contains the only printer's error that caught my eye. We can contemplate with Kamo Taruhito "the diving mandarin-ducks and teal" even if one feels he is mistaken as to their feeding habits. Or we can close the book pondering on the near-ultimate statement that "if human music is a hare beginning now to jink wildly in order to escape the mechanization which will destroy it, bird music is the tortoise advancing imperceptibly along a straight course."

An especial word of praise must be given to the Cambridge University Press for producing a book which is a pleasure to contemplate—clearly printed on excellent white paper, restfully laid out, attractively bound and, as already indicated, nearly error-free.

G. V. T. MATTHEWS

Applied Sciences

WATCH WHAT YOU EAT

Food-borne Infections and Intoxications

Edited by Hans Riemann. (Food Science and Technology: A Series of Monographs, Vol. 5.) Pp. xxviii+698. (Academic Press: New York and London, June 1969.) 261*s*.

THIS book is written with authority, referenced with assiduity, printed with accuracy, edited with an appreciation of the sweep of the topic, and presented in the aseptically aesthetic fashion associated with the publications of the Academic Press. As a result, parts of the book are a little dull, much is bright and there are flashes of excitement in wait for the assiduous reader.

In a book of comprehensive coverage, the contributors to topics which have received much recent attention (such as *Salmonella* infections and type *E* botulism) labour under a disadvantage compared with those who break new ground. To me, the chapter on viral infections fills an urgent need in drawing together widely scattered information on foods as vectors. The chapter on halophilic vibrio infections collates information largely acquired by Japanese investigators and hitherto not readily available to the Western reader because most of the original publications were in Japanese.

There is a thoughtful chapter on infections caused by miscellaneous microorganisms, it being the infuriating lot of the investigator of microbial food poisoning to be left with a residuum of unexplained outbreaks. Another valuable review covers the field of alimentary mycotoxicoses in which the inevitable aflatoxin is merely the first of a growing list of mould-produced toxins potentially harmful to man. Further chapters cover laboratory methods, food processing and preservation, poisonous plants and animals, parasitic infections, staphylococcal infections and infections caused by perfringens and cereus. The book contains a valuable glossary of the terms used and a thoughtful foreword by Dr George F. Stewart of the Food Protection and Toxicology Center of the University of California. It is provided with a genus and species index, a subject index and an author index, and an effective chapter on laboratory methods.

Ten of the contributors are American, three are British and two Japanese. All are of repute and as a result this work is likely to remain unchallenged as a reference source for half a decade. J. HAWTHORN