

The book is full of equally pungent illustrations, and it profits by its own warnings. The only part of the argument which is seriously inadequate is the discussion of the reasons which lead scientists to differ in their approach to the same set of facts. Is the tendency to discover 'principles' and mistake them for explanations, or to prefer suggestive relationships to verifiable hypotheses, merely a matter of mental indiscipline? There is evidence that these predispositions represent personality types, not merely individual weaknesses. There is a systematic similarity in the kinds of error which individuals make: Dr. Beck mentions the grosser aberrations of scientific behaviour which affect performance—bad temper, fractiousness, and dishonesty—but does not discuss the fact that something which has been observed may be blocked completely from consciousness, for reasons of which the subject is quite unaware.

Nor does Dr. Beck deal with the possibility that there are problems which men do not want solved. These are the real source of the separation which he deplores between 'science', in which the self-discipline needed for the empirical method is admitted, and other fields of thought, where it is not. But his book is a valuable step towards a wider rationalism.

ALEX COMFORT

SCIENCE FOR CHILDREN

Seekers and Finders, Books 1-3

They dared to Ask Questions. Pp. viii+68. Magic, Science and Invention. Pp. viii+72. You Yourself: Fifty Straight Answers to Fifty Fair Questions. Pp. viii+64. By Amabel Williams-Ellis. (London and Glasgow: Blackie and Son, Ltd., 1958.) 6s. net each.

THE problem of introducing science to children has been brought out in a number of recent reports. In Britain in secondary modern schools little is attempted, while in primary schools almost nothing is done. Apart from the inadequacy of science teaching in our training colleges, which produces only a small number of competent science teachers, one of the great difficulties of interesting young children in science subjects is that there are few suitable books which could be used for class reading, apart from a limited number of books on natural history which are of outstanding merit.

In this series, Mrs. Williams-Ellis takes over the role of popularizer and does it most effectively. "They dared to Ask Questions" not only describes important stages in the lives of Pasteur, Darwin and Edison, but also shows how their investigations and researches led them to discoveries and ideas for which they have become rightly famous. Although there is no mention of 'scientific method' or inductive reasoning, there is also a chapter which illustrates these processes in a way which would command the admiration of most investigators. "You Yourself" answers fifty of the questions which are constantly being put to adults by exuberant children and, in doing so, conveys elemental knowledge in anatomy and physiology, as well as the way in which important principles have been unravelled. In "Magic, Science and Invention", Mrs. Williams-Ellis repeats the pattern of the first book with accounts of the lives of Linnaeus, Marie Curie and the Wright brothers; she also uses the career of Dr. Thomas Beddoes to show that enthusiasm is not enough.

Each of these books is skilfully written with words which are carefully chosen to be meaningful to children. They are liberally and, sometimes, humorously illustrated and contain a number of suggestions designed to stimulate young readers to further thought and action. There is little doubt that they will be successful.

The real judges of this kind of book are children themselves. The first three have already been read by a number of children, who await other volumes in the series with eager anticipation. T. H. HAWKINS

AUSTRALIAN ACRIDOIDEA

The Grasshoppers and Locusts of Australia

By Dr. J. A. G. Rehn. Vol. 1. Families Tetrigidae and Eumastacidae. Pp. 326+21 plates. 1952. Vol. 2. Family Acrididae, Subfamily Pyrgomorphae. Pp. 270+32 plates. 1953. Vol. 3. Family Acrididae, Subfamily Cyrtacanthacridinae, tribes Oxyini, Spathosternini and Praxibulini. Pp. 270+29 plates. 1957. (Melbourne: Commonwealth Scientific and Industrial Research Organization. Sold by Melbourne University Press.) A£2 each volume.

IN most arid countries with a rapid development of agriculture and grazing, many local grass-feeding insects, grasshoppers and locusts in particular, soon become important pests, requiring the attention of entomologists. Australia is no exception and the need for a thorough knowledge of local Acrididae was fully realized by the Commonwealth Scientific and Industrial Research Organization, which very properly decided that one of the essential steps would be a competent taxonomic revision of the local fauna, to enable economic entomologists to identify species of importance. The work has been entrusted to Dr. James A. G. Rehn, of the Philadelphia Academy of Sciences, and is being carried out in the United States with the material supplied by all museums in Australia.

As stated in the introduction to the first volume, "the general purpose of these studies is to supply readily usable keys", but the work is unsatisfactory in this respect. There is no explanation of the terminology used in keys and descriptions and, since the author tends to use many terms not accepted by other taxonomists, a reader may not be able to find their explanation elsewhere. Both keys and descriptions are written in a cumbersome and complicated style; for example, "Frontal costa with the lateral margins of inter-antennal section distinctly divergent ventrad about and enclosing a marked and relatively broad supra-ocellar frontal scutellum the profile of the lateral margins of which area is distinctly convex, and cut off from the more dorsal portions of the facial outline". Descriptions of genera and species are inordinately long, and this is due less to their completeness than to verbosity, which is bound to exasperate and to confound the user, who will find it difficult to distinguish characters of diagnostic value from the more trivial ones.

While the work fails as an aid to an economic entomologist, a taxonomist will find the author old-fashioned as regards the classification of the higher categories, since he either rejects or merely ignores some recently introduced changes in the system established in the last century by Stål, Brunner and others which he prefers to follow. Some of the author's attitudes to changes proposed by others are ventilated,