BOOK REVIEWS

Social Biology

Social Implications of Biological Education. Edited by Arnold B. Grobman. Pp. 134. (Darwin: Princeton, New Jersey, April 1971.) $5.95.

THIS book was planned by a Committee of the American National Association of Biology Teachers for those who would welcome thoughtful reviews of pressing social problems associated with advances in the biological sciences. It is the report of a national conference of NABT held in 1969, in which papers prepared by distinguished biologists, who have exhibited a concern for significant social problems, are followed by the prepared statements of three panelists, which support, contradict, extend or restrict the major papers. The three members of each panel include at least one additional specialist in the field of the major speaker and one practising school teacher. The statements of the panels are followed by accounts of the question and answer sessions.

Four major topics, medicine, behaviour, genetics and population, are dealt with in this manner, and, owing to Dr Grobman's skilful editing, this technique has produced a lively and readable volume. Such questions as "Should the government support and control scientific research?", "Should euthanasia be practised?", "Is free-will an obstacle to technological progress?", "Are differences of intelligence a matter of race?", "Is birth control a solution to the population problem?" and "Should man control his genetic resources?" are ably discussed from differing viewpoints.

The section on medicine is introduced by a paper on "The Social Implications of Medicine" by Michael and Lois Debakey of the Baylor College of Medicine, Houston, Texas, who discuss the growing discrepancy between the achievements of research and technology and their application to human life. The importance of the science teacher's role in conveying not only basic concepts, the philosophy and methods of science, but also the social implications of medical science, so that each student may recognize his responsibility in helping to shape public policy in this field, is clearly brought out.

James V. McConnell of the University of Michigan introduces the topic of behaviour in a controversial paper on "Ethics and Behaviour", in which he discusses life from a behaviourist's standpoint, and a paper by Bruce Wallace of Cornell University entitled "Genetics and Genetic Manipulation" opens the section on genetics. This latter gives an interesting treatment of biological races, and comments on recent work on "racial intelligence", as well as considering eugenics and genetic engineering. This is followed by a stimulating paper entitled "Can Teachers Tell the Truth about Population?" by Garrett Hardin of the University of California.

The last chapter departs from the pattern adopted for the rest of the book. It is based on the banquet address by Claude Welch on "Evolution—the Reluctant Revolution", in which the nature of conceptual revolutions is discussed.

This volume is not intended to be a complete compendium of the social implications of biological education. It is selective and omits some very important problems. For instance, there is no section devoted to ecology, and the whole vital area of the control of pollution and the redressing of the environmental balance is only hinted at. The reason for this omission might well have been that one of the few social problems, which American biology teachers of a generation ago thought appropriate for their consideration, was conservation. In this area, NABT played an active part and, under the leadership of the late Dr Richard Weaver, the Association produced a *Conservation Handbook,* which has been highly regarded.

Furthermore, the treatment of those topics, which are dealt with in this volume, does not set out to present all possible points of view. The aim is rather to present a number of thought-provoking and related statements on current problems for teachers to consider. Where the chosen topics have implications, which fall into the two broad areas of social–political and moral–ethical, it is in the former area rather than in the latter that problems are explored.

This should be a particularly useful book for teachers of the life sciences, who wish to discuss with their students those "problems generated at the interface between science and society". As science becomes broadly integrated into all phases of our culture, its significance as a part of a general education becomes more important and the aims of science teaching will need to go beyond the restrictive context of the special disciplines and consider science in relation to mankind. It is clear from the discussions reported in this volume that it will meet a need for science teachers who are now expected to take on an entirely different kind of responsibility from that for which they have received preparation.

ELIZABETH PERROTT

Parasitic Insects

Parasitic Insects. By R. R. Askew. Pp. xvii+316. (Heinemann: London, June 1971.) £3.50.

THIS book is divided into two sections; the first deals with insects having parasitic adults and the second with protelean parasitic insects. The author adopts a very broad view of parasitism and a wide range of diverse associations are described under this umbrella definition. The first section is introduced by a description of the mouth parts of adult parasitic insects, which possibly would have been more easily comprehensible had it been treated from the point of view of adaptive radiation and with a little more emphasis on function and the physiology of digestion of imbibed host tissue. Some treatment on the ecology of the host body environment and the alterations (for example, the histopathological changes) inflicted on it by the parasite would have been useful and may even give a lead to explain the absence of anticoagulants in the saliva of some of these species. For a parasite does establish a physiological association with the tissues on the surface of, or inside, the body of its host, even though the association is primarily to provide food for the parasite. This omission is not altogether the fault of the author, for much remains to be done in this field.

Chapters 2–5 deal with lice, fleas, blood sucking flies and Diptera pupipara and chapter 6 with bugs, earwigs, beetles and moths as a "convenient" grouping of other insects parasitic as adults. I believe that the bugs should have been dealt with in a chapter on their own. The approach to these organisms is from the ecological standpoint and there is undoubtedly a wealth of information here, with substantial reference to up to date literature. The final chapter in this section deals with blood sucking insects as vectors of human disease, but more could have been done on this aspect of the subject —for example, some reference to the factors influencing the movement of trypanosomes in the insect gut and the passage either to the proboscis or to the hind gut preparatory to transmission. The insect body is, after all, an environment for these pathogens and they must show physiological adaptability to it. In spite of these apparent criticisms there is no doubt that the author has drawn together much information of considerable value for undergraduate students and as introductory reading for post-graduates specializing in ectoparasites. In the introduction (page X) the