

The Threshold of Space

The Proceedings of the Conference on Chemical Aeronomy, sponsored by the Geophysics Research Directorate, Air Force Cambridge Research Center, Air Research and Development Command, Cambridge, Mass., 25-28 June 1956. Edited by M. Zelikoff. Pp. xi+342. (London and New York: Pergamon Press, 1957.) 105s.

A MORE specific short title for this volume of papers on chemical aeronomy would be helpful. The particular threshold of space is that of atmospheric photochemistry and spectroscopy. While most of the papers are concerned with theoretical and laboratory researches, important experiments using high-altitude rockets, and some descriptions of phenomena produced by hypersonic flight, are also included.

The book as a whole has both the shortcomings and the merits perhaps inevitable in a collection of individual papers. There is a lack of coherence and the assumption of an extensive background knowledge by the reader. However, the papers themselves, mostly by workers leading the field, are generally of a high standard. Those dealing with theoretical and laboratory studies of photochemistry and spectroscopy related to the atmosphere of the earth, and of Venus, lead to accounts of rocket probing in the upper atmosphere. Some of these papers relate to work such as the investigation of far ultra-violet radiation in the night sky, and the seeding of the upper atmosphere by sodium and nitric oxide which may well have heralded the opening of new branches of old disciplines.

There is no doubt that both the problems and the experimental tools of hypersonic flight research will stimulate and facilitate further understanding of the physics and chemistry of the atmosphere. The introduction of these aspects to the Conference proceedings is welcome. Each paper is followed by a short verbatim discussion and a useful bibliography.

The Insect Pests of Cotton in Tropical Africa

By E. O. Pearson, assisted by R. C. Maxwell Darling. Pp. x+355+8 plates. (London: Empire Cotton Growing Corporation and the Commonwealth Institute of Entomology, 1958.) 40s.

THIS book sets out to provide a vade-mecum for the study of the cotton pests of Africa, and is written both for "those concerned with the welfare of the cotton crop who are not entomologists" and for the field entomologist. The main text occupies a little more than 300 pages of which the first fifty contain a succinct account of the cotton plant, *Gossypium*, its African environment, history, distribution and pests. This section ends with an invaluable field key by means of which observed damage to the crop can be ascribed to its most likely cause, whether it be a fungus, an invertebrate or even 'big game'. The rest of the book is devoted to comprehensive and critical accounts of specific pests which are grouped primarily by order, then, where convenient, by the parts of the host plant which they most usually attack. This discussion is exhaustive yet always terse and gains much from the frequent and extended references to features of the environment relevant to the entomological data under discussion. The authors do not hesitate to look outside Africa when they feel it will throw additional light on their subject and occasionally topics are treated almost in world-wide review. The result is a satisfactory

summary of current knowledge as well as a record of the authors' life-long personal experience.

The book is well illustrated and indexed and is gratifyingly free from errors. It may perhaps be worth noting that *Empoasca lybica* (de Bergevin) is not confined to Africa, as stated, but has been found also in Palestine, Arabia and in the Aden Protectorate, in the last of which it was reported on cotton. A further natural enemy of *Empoasca facialis* Jacobi may also be added to those listed in the book, since there is in the British Museum (Natural History) collection a specimen of this leafhopper, from Serere, Uganda, which has been parasitized by a species of Dryinid.

W. E. CHINA

Parasitic Animals

By Dr. Geoffrey Lapage. Pp. xxiii+355. Second edition. (Cambridge: W. Heffer and Sons, Ltd., 1958.) 25s. net.

THE publication of the second edition of "Parasitic Animals" will be welcomed by many people, particularly those concerned with the teaching of parasitology. Dr. Lapage's treatment of his subject makes the book very readable and provides good background material for students. It is, however, to be regretted that the author has not taken this opportunity to correct some of the errors of fact and to clarify some of the possibly misleading statements which appeared in the earlier edition. I refer, in particular, to the perpetuation of such statements as that on p. 107 that the male gametes of *Plasmodium* are "each about 15-20 mm. long" and that on p. 109 that the gametocytes of the same parasite "pass back from the mosquito to man . . . they also enter man through the sucking tube and enter it passively, being unable to effect entry by their own efforts". On p. 91 a slight alteration has been made to the original text but the inference to be drawn from the passage is still the same, that adult *Taenia solium* can normally develop in the intestine of the pig. Reference might be made to several other points, but no doubt the observant reader will find these for himself. The only major difference between the two editions is the inclusion in the second of a list of literature for further reading. This is a useful addition, but it is disappointing to find that Baer's "Ecology of Animal Parasites", surely the most important book on the subject, has been omitted.

C. A. WRIGHT

Fundamentals of Papermaking Fibres

Transactions of the Symposium held at Cambridge, September 1957. Edited by Francis Bolam. Pp. x+487. (Kenley, Surrey: Technical Section, British Paper and Board Makers' Association, Inc., 1958.) 75s.

THE salient features of this Symposium were summarized in *Nature*, 180, 1175 (1957). The 18 papers presented have now been published in book form, complete with illustrations, references and reports of the discussions. The foreword quotes the view of Dr. Otto Maas expressed in his concluding remarks at the Symposium, namely, that it had been a landmark in the science of paper making and had set a new standard for conferences in this field. It is obvious that this book is indispensable to those directly interested in the subject. Workers in allied fields, however, will also find in it much that is of great use and interest. The inclusion of a subject index would have increased the value of the book for reference purposes.

JULIUS GRANT