Mind and Life

An Essay in Simplification. By A. G. Tansley. Pp. xi+172. (London: George Allen and Unwin, Ltd., 1952.) 15*s*. net.

THE author of this book is an ecologist who has previously written an exposition of psychology. He now presents this further volume, which he describes in a sub-title as "an essay in simplification". This is a discussion of various aspects of psychology, and its scope is shown by the chapter headings, some of which are: the structure of the mind; the energy of the mind; the functions and limitations of psychological concepts; instinct, heredity and environment; causation, determinism and free will; love and sex; the strength and weakness of psycho-analysis; the family and the community; the individual and the community; psychological reality and spiritual values; etc.

There is nothing new in this book—it is mainly a re-statement of the views of Freud, McDougall, Trotter and others. Its value, therefore, must lie in the clarity of exposition. This is very good, and the author does state clearly and intelligibly the theories which he describes. Mainly he accepts the Freudian point of view, and his descriptions of mental structure, and so on, are excellent. Not everyone would accept his views on free will, which he regards as possible within a limited sphere, since many would insist that every action is determined. He suspects the idea that the mother–child relationship is a sexual one, but admits (p. 103) that "it may, as in the Oedipus situation, run into the specifically sexual channel". This timidity is shown especially in his discussion on religion. Here he takes a leap into the dark and, abandoning any psychological basis, states (p. 106) that "The best evidence for the belief in spirit as the ultimate reality is derived from the phenomena of religious mysticism".

Those unacquainted with modern psychological theories will find the book of interest. It is well printed on non-shiny paper and is attractively bound in apple-green cloth. There is no index.

Clifford Allen

Hydroponics

The Bengal System. By J. Sholto Douglas. Pp. xii+147+17 plates. (Bombay and London: Oxford University Press, 1951.) 10*s*. 6*d*. net.

THE growing of plants in sand, gravel or other inert medium with the aid of nutrient solutions has now become firmly established as a commercial method in many countries. In Great Britain its use has been confined, for obvious reasons, to the cultivation of glasshouse crops; but in other parts of the world, where shortage of water or unsuitable soil makes normal outdoor growing impossible or uneconomic, soilless cultivation holds out promise as a means of production, especially of food crops.

Mr. J. Sholto Douglas, an immensely enthusiastic amateur, became fired with the idea of using simplified techniques for food production in North India and, during some years of work in Bengal, produced results which, if not quite so startling as his enthusiasm might lead one to believe, were at least of great interest. He has embodied in this small book an account of the practical systems he developed, which are workable, so he claims, by Indian labour.

While he confines himself to this practical description of his own experiences, the book is interesting and useful. Unfortunately, he runs outside his brief and attempts in a short space to give an account of the underlying principles of plant nutrition in general and of soilless cultivation methods in particular. Here he is on unsafe ground and perpetrates some major errors of principle and fact. His lists of "suitable" solutions, for example, are entirely uncritical and in some cases absurd, while when he attempts to deal with certain unrelated scientific findings, such as colchicine treatment and the use of plant hormones, he goes entirely off the rails. If the book should see a second edition, it is to be hoped that the author will delete these irrelevant and unnecessary parts.

R. H. Stoughton

Exercises in Experimental Physics

Edited by N. C. B. Allen and Dr. L. H. Martin. Pp. xiii+237. (Melbourne: Melbourne University Press; London: Cambridge University Press, 1951.) 30*s*. net.

THIS book is specifically written to supplement the lecture courses in the second year of the B.Sc. in the University of Melbourne; but, of course, it could be used equally well by students of any university pursuing a similar course.

It is gratifying to know that the students at Melbourne are encouraged to read about the experiments before carrying them out, and to this end sufficient theory is given in the book to enable the experimenter to have an intelligent understanding of what he is about to do; in addition, references are made to suitable texts for further reading—a good feature.

The course is a very comprehensive one, if, as it seems, it is to cover one year of work only, and this latter fact probably explains the apparent lack of balance between subjects. For example, only four pages are devoted to the heat section, and a similar number to sound; presumably, courses for other years restore the correct balance. The work is thoroughly up to date in its approach and execution, and includes a section on the Geiger counter as well as work on radioactivity. The first chapter is devoted to an account of observations and statistical theory, which, it is hoped, students will thoroughly digest, and there is a useful appendix dealing with units.

Annual Review of Physical Chemistry

G. K. Rollefson (editor), R. E. Powell (associate editor). Vol. 3. Pp. x+416. (Stanford, Calif.: Annual Reviews, Inc., 1952.) 6 dollars.

WITH the publication of this, the third volume of the "Annual Review of Physical Chemistry", the venture begun under the capable editing of G. K. Rollefson and R. E. Powell in 1950 may be said safely to have passed the experimental stage. The general pattern is now clear: the articles can be divided broadly into two classes—the perennials, or annual reports proper, in which each year the progress over the year is given; and the special topics, varying from year to year, in which the reviewer is allowed to develop his subject more fully to cover a longer time period. The perennial review is perhaps the more difficult to do well, but some safeguard is provided by the policy which brings a new author to each subject annually.

Vol. 3 contains an essay on the quantum theory of valence (C. A. Coulson), topical reviews on polymeric electrolytes (P. Doty, G. Ehrlich) and on bond energies and distances (G. Glockler), a masterly summary of the theory of liquid solutions (G. Scatchard), a discussion on some aspects of photosynthesis (M. Calvin *et al.*), and fourteen other articles, in which virtually the whole field of physical chemistry is covered.

H. A. Skinner