

Our Bookshelf.

Report of the Proceedings of the Third Entomological Meeting held at Pusa on the 3rd to 15th February, 1919. Edited by T. Bainbrigge Fletcher. (In three volumes.) Vol. i., pp. xii+417+69 plates. Vol. ii., pp. vi+418-835+70-129 plates. Vol. iii., pp. vi+836-1137+130-182 plates. (Calcutta: Superintendent Government Printing, India, 1920.) Rs.17 8 annas (3 vols.).

THIS bulky report is a record of thirteen days' deliberations given to the discussion of almost every aspect of entomology which is likely to concern the Indian Empire. During the congress ninety-two papers were read, and these are printed in the three volumes before us, together with a verbatim report of the discussions which were the outcome of these papers. A good deal of the information has already been published elsewhere, but it is doubtless convenient to have it gathered together and made available within the compass of a single publication. It is gratifying to note that the meetings were attended by forty-six professional entomologists and other officials, a fact which indicates the importance which this aspect of zoology has attained in the East. It is also pleasing to find an instance where a Government Department has been sufficiently generous to allow the publication of so detailed and profusely illustrated a series of volumes during these times of financial stress.

The greater number of the papers directly concern the economic entomologist, and perhaps the two most important are those entitled "Borers in Sugar Cane, Rice, etc.," and "Stored Grain Pests," which are written conjointly by Messrs. T. B. Fletcher and C. C. Ghosh. The last-mentioned paper might well be read by all interested in the reports of the Grain Pests Committee of the Royal Society. A paper by Capt. F. de Mello on "The Trichonymphid Parasites of Some Indian Termites" is of general biological interest, and the author brings to light several new forms of these remarkable Protozoa. Major Fraser writes on certain night-flying dragonflies—a habit scarcely suspected among such insects. Mr. A. W. Slater contributes a paper on the preparation and reproduction of scientific illustrations, and Mr. C. F. C. Beeson details a method of subject-indexing entomological literature. These few examples fail to do any justice to the wealth of information embodied in this report, but they will perhaps serve to indicate the wide range of subjects which came up for discussion. The volumes are clearly printed and illustrated, and reflect great credit upon all concerned in their production.

A. D. IMMS.

Instinct in Man: A Contribution to the Psychology of Education. By Dr. J. Drever. Second edition. Pp. x+293. (Cambridge: At the University Press, 1921.) 10s. 6d. net.

DR. DREVER'S important book on "Instinct in Man," which was reviewed in NATURE of Jan-NO. 2693, VOL. 107]

uary 31, 1918, is enriched in this second edition with an appendix which will be read with great interest by all who have followed the controversy over the nature of the human instincts and their relation to the emotions. The chapter is entitled "The Emotional Phase of Affective Experience."

There are two divergent views concerning the place the instincts occupy in the psychology of man, though the facts are not in dispute. What is in question is rather a principle of classification, which at times may seem no more than a matter of nomenclature. According to one view, the human instincts are a kind of action-patterns, or it may be chains of actions, automatically or even mechanically set in motion, similar in nature to the nest-building instincts of birds. In this view the human instincts are few in number, most of them probably vestiges, and all comparatively unimportant; but the affective or emotional side of experience becomes important. This is not limited to specific responses, but built up into "sentiments," which are affective systems and the foundations of human character.

The other view is that the whole basis of human experience is instinctive, and that the instincts are distinguishable and may be enumerated; but they are not partial and intermittent; rather they are pervasive and comprehensive. Each instinct is bound up with a specific emotion and only functions in connection with it, and these primary emotions, with their instincts, are practically constitutive of human nature.

Between these two views Dr. Drever does not exactly steer a middle course—he is too original to be content with that—but he does in his criticism try to conserve what is valuable in each and reject what is untenable.

H. W. C.

Energétique Générale. By Dr. Félix Michaud. Pp. vii+229. (Paris: Gauthier-Villars et Cie, 1921.) 10 francs.

"ENERGETICS" deals with the relations between the various forms of energy according to a uniform plan. Each form is assumed to be representable as a product of two factors—an "extensity" or "capacity" (x), and an "intensity" (X), related by the equation $\partial U/\partial x = X$. In the case of heat the extensity is the entropy, Q/T , and the intensity the temperature, T . General laws are then reached connecting U , X , and x .

The problems considered in the present treatise are most varied; they include mechanics, electricity, heat, and chemistry. The applications of the general principles are very clearly and elegantly presented, and the treatment, which is mathematical, is strictly logical. The question arises as to whether thermodynamics, which is a branch of "energetics," according to the exponents of the latter, is best considered in this somewhat formal manner. Boltzmann and Planck have emphasised the essential distinction between heat and the other forms of energy, but the theory of probabilities seems to have no place in the scheme of "energetics."

J. R. P.