eggs develop. A fruitful field for investigation is open in this direction.

A. G. HUNTSMAN

CONSTANTS AND VARIABLES IN BIOLOGY

TO THE EDITOR OF SCIENCE: I have read Mr. Frank J. Kelly's letter on the substitutes for the words "homozygous and heterozygous." His argument appeals to me very particularly because we are constantly confronted with variously constructed new terms to express scientific theories. It seems to me it is by far best to give a special and restricted meaning to the ordinary words of the English language as is done in mathematics.

In this science the word "constant" is used to express a stable quantity and "variable" one that is subject to change. Why could not these two terms be bodily lifted from mathematical language into biological? The second term would quite adequately cover what Mr. Kelly calls "inconstant form."

J. R. DE LA JORRE BUENO

SCIENTIFIC BOOKS

Animal Parasites and Human Disease. By ASA C. CHANDLER, M.S., Ph.D., Instructor in Zoology, Oregon Agricultural College, Corvallis, Oregon. xiii + 570 pages. 6×9. 254 figures. Cloth, $4.50 net.

The work aims to present the subject of parasitology and especially its relations to the problems of human disease in such form as to make it attractive to the generally educated reader, and also useful to those less technically trained persons who have reason to utilize information in this field. The author's efforts have certainly achieved a good measure of success. His style is attractive and his presentation clear and reasonably complete. The work will be used by many who would not be inclined to refer to a more extended and more critical presentation of the subject.

After an introduction, outlining the significance of the subject and a discussion of parasitism in general, the first part of the work is devoted to a consideration of protozoa. These organisms have been grouped according to their systematic relationships. Under each heading, however, the particular organism is treated with reference to its significance in producing disease. The chapters included in this part are entitled: Introduction to Protozoa, Spirochætes, Leishman Bodies and Leishmaniasis, Trypanosomes and Sleeping Sickness, Intestinal Flagellates and Ciliates, Amebæ, Malaria, Other Sporozoa, and Obscure or Invisible Parasites.

This is the largest and certainly the most valuable part of the work, for it brings together a mass of material not readily available in this form in any other work. It points out in striking fashion the significance of recent discoveries concerning protozoa and disease. On the whole the treatment is well balanced and there are no important omissions. The author has included studies of recent date and perhaps has gone to the extreme in giving a place to discoveries so recent that their significance might well be considered doubtful, even if the observed facts are conceded to be correct. As an example of this may be cited the entry, in a note at the end of the chapter on spirochætes, of a discovery of one of these organisms in the kidney in cases of typhus and the comment that certain other bodies possibly are stages in the life history of the organism. One may reasonably doubt whether such conjectures regarding a complex and difficult field are really in place in a brief discussion intended to give the general reader clear and correct views of the present status of knowledge on these questions. It is only necessary to recall the number of organisms that have been at times supposed to be "causes" of certain diseases to see the questionable advisability of listing such suggestions before they have been thoroughly tested by other investigators.

Part II. on the Worms can not be regarded as equally successful. The chapters included in this part are entitled: Introduction to the "Worms," The Flukes, The Tapeworms, Hookworms, Other Intestinal Roundworms, Trichina Worms, Filiariæ and Their Allies, Leeches.

The material called for here is really better