zoits taken from large oocysts in the stomach that he got (two) successful results.

In discussing the ætiology of sleeping sickness we think the author scarcely puts Colonel Bruce's discovery in its proper light. We would say that without Castellani's observation possibly Bruce would not have thought of or discovered the trypanosome, just as Dutton might never have discovered the *Trypanosoma gambiense* had it not been for Forde. But to claim Castellani as the discoverer of the ætiology of sleeping sickness is, we consider, hardly right. Further, the author appears to have some doubts as to whether this trypanosome is really the cause of the disease, and cites, by way of caution, the fact that similar evidence could have been adduced in favour of the embryo *F. perstans*. But to us it seems that the "evidence" in favour of *F. perstans* was never at any time on the same footing as that of *Trypanosoma gambiense*, and, as a matter of fact, collapsed immediately the hypothesis was tested by facts.

We cannot here discuss the evidence in favour of regarding *T. gambiense* as the cause of sleeping sickness, but it is supplied by a body of epidemiological, pathological, and experimental evidence surely conclusive.

Finally, the author suggests (p. 124) that, in the case of *T. gambiense*, the negro of the endemic areas of this parasite has acquired an immunity similar to that of antelopes in regard to *T. brucei*. But, so far as we are aware, there is not the slightest evidence of this, and, in fact, the evidence is to the contrary, viz. that where a negro has *T. gambiense* in his blood he will surely die sooner or later (of sleeping sickness).

We consider that for the medical man the most valuable portions of the book are those dealing with the diagnosis and treatment of tropical fevers, and these should be taken to heart, for it is not uncommon, for example, for a patient to die of liver abscess who has been treated throughout for "fever"; but fever is not always malarial, as is too often supposed.

The book has numerous illustrations in the text, but, with some exceptions, these are not entirely successful. We would heartily recommend those who wish for a series of stimulating, unconventional lectures to peruse this book. J. W. W. STEPHENS.

PROGRESSIVE TEACHING IN PHYSIOLOGY. Recent Advances in Physiology and Biochemistry. Edited by Leonard Hill, M.B., F.R.S. Pp. xix + 740. (London: E. Arnold, 1906.) Price 18*s*. net.

THE rapid advances that physiology is making are reflected not only in the journals that deal with research, but also in the vigour with which the teachers of the subject are applying themselves to their duties in relation to their students. At several centres in London there are every year now given courses of advanced lectures, open free to all the students of the London medical schools, in which they may hear from the lips of the investigators themselves the result of their research, and witness the most important of their experiments.

The book now before us is a corresponding expression of this teaching energy, and one can only hope that authors and publishers alike may find their venture a success. Students have not the time for hunting up original papers, but they ought readily to imbibe a summary of recent research when it is presented to them in an attractive way.

The collaborators deal with subjects on which each is competent to speak, because they have themselves worked at those they write about. Thus the editor, Mr. Leonard Hill, treats of the subjects of respiration and fat-metabolism. Dr. J. J. R. Macleod gives a summary of recent work in connection with carbohydrate metabolism, uric acid formation, and the immunity question. Another aspect of the respiratory process is dealt with by Dr. Pembrey, who also writes on internal secretions; and some interesting chapters on lymph production, absorption, and excretion by Dr. Beddard follow next.

All the subjects are treated in a lucid manner, and will give to advanced students a clear idea of the present position reached by physiologists on many of the thorny problems that beset the path of the original worker.

The opening articles of the volume, which are from the pen of Prof. B. Moore, come into a somewhat different category. He deals with the applications of physical chemistry to physiological phenomena, especially in connection with secretion, and the action of enzymes. He gives the latest views and results on this most important subject, and teachers and students alike owe him a debt of gratitude for his able treatment of these somewhat obscure questions. Those parts which relate to the rules and formulæ which regulate the processes of reaction-velocity and the like will be found rather difficult to many, for physiologists and medical students are, as a rule, rather rusty in their mathematics. But Prof. Moore's articles are not mere abstracts of the work of himself and others, for he has chosen them as the vehicle for the promulgation of a new doctrine, of which the keynote is struck in the opening chapter. The main object of his succeeding chapters is to convince the reader that this new conception is right, and will explain much that has hitherto been puzzling. The cell is treated as a transformer of energy, but the new energy produced, which is characteristic of living structures, cannot be brought into line with the known forms of energy in the inorganic world. It differs from heat and electricity, for instance, as much as, or more than, heat and electricity differ from each other, and he dubs it "biotic energy." Biotic energy is not, however, the old vitalistic principle revived under a new name, for it obeys the law of conservation of energy, and its investigation is capable of numerical and exact treatment just as that of heat and electricity is. A review is not the place to enter into any detailed criticism of such a view. The idea will serve to stimulate others to renewed research, and one foresees it will meet with considerable opposition in the future. Any doctrine which involves controversy is to be welcomed, and finality in the discovery of truth is brought nearer as the workers are provided with new theories as a basis of work. W. D. H.