

WE invite the attention of our readers to the extract in our special senses columns on the treatment of nightblindness by feeding on liver. We agree with Major Maynard, I.M.S., that, as nightblindness is very common in India, trial of this simple treatment might easily be made, and its value readily determined.

The new volume of the *Medical Annual* contains a large number of articles on diseases of the Tropics. Among the best are (1) an excellent account of Mycetoma by Lt.-Col. W. K. Hatch, I.M.S., with 10 illustrations, several of which are coloured and (2) Major Ronald Ross' resumé of the Malarial question.

## Reviews.

**General Physiology: an Outline of the Science of Life.** By MAX VERWORN, M.D., PH.D. Translated by FREDERIC S. LEE, PH.D. Macmillan & Co., London and New York. Price 15s.

IN the *Lancet's Annus Medicus*, 1899, this book is rightly given the highest place among works on physiology. It is of its kind the best we have ever read, and no student of physiology should or can afford to leave it unread. What Virchow did for the pathology of the cell, the unit of life, Professor Max Verworn has done for cellular physiology. From a literary point of view the translation deserves great praise, and if the original, regarded merely as literature, is as good as the translation, it is very good indeed. As the author remarks it appears more and more clear that the general problems of life are cell problems:—"the elementary constituent of all living substance, and the substratum of all elementary vital phenomena is the cell. Hence if the task of physiology lies in the explanation of vital phenomena, it is evident that general physiology can be only cell-physiology." After discussing briefly the methods of physiological research the author gives us some twenty pages of well written and most interesting history of physiological research from its earliest times with its curious attempts to explain vital phenomena by the doctrine of the *pneuma* afterwards divided into two sections by Erasistratus, viz., the *vital spirits* in the heart and the *animal spirits* in the brain. From this state of things in 280 B.C. the doctrine underwent expansion, but it was not until the genius of Galen called for attention that any distinctive change occurred. "Galen said that practical medicine could not thrive unless it were based upon a very detailed knowledge of the normal vital phenomena of the body." Thus about 131 to 200 A.D., Galen began the serious examination of the body and showed

the value of comparison by dissecting the bodies of animals, especially pigs and monkeys. His views continued to represent the physiological code for some thirteen hundred years to be modified or displaced as the result of Harvey's experiments. Perhaps the most important period was that of Johannes Müllen 1801-1858, since in his time science became a truth, and the modern methods swept away the guesses of previous ages, leaving all future matters to stand or fall by the test of research and experiment, fact and knowledge replacing fancy and belief. But this book is not only valuable for the facts it contains in vast array, but because it makes the reader think and brings him face to face with the deepest and most serious problems of life. The author regards the only consistent standpoint to be *monism*, which seeks to derive all phenomena from a single cause. His philosophy is that of the Berkeley order, that of ideas. There is little to be gained by combating any view so long as facts and fair deductions are admitted. A brick is none the less hard because it is merely one of our ideas. A careful study of the nature of living substance brings us up to Chapter III commencing the study of the elementary vital phenomena, which are taken in order; ingestion, etc., including the nature and value of food-stuffs and the phenomena of metabolism. The section treating of form-changes is most interesting, and the two series of form-changes are discussed; first, the *phylogenetic* or racial development, then the *ontogenetic* or *germinal* development. The question of the possibility of inheritance of acquired characteristics is fully argued and left, as it must be, failing satisfactory experiments, undecided, though for our part, we are strongly of opinion that true mutilations will never become hereditary since they in no way affect the germinal elements nor the course of development. This review is already long enough, but we must draw attention to the very attractive and fairly written section of the origin of life on the earth with the very ingenious theory of Pflüger which suggests *cyanogen* as the link between the lifeless and the living. "When we think of the beginning of organic life we must not think primarily of carbonic acid and ammonia, for they are the end of life, not the beginning." "The beginning of life lies rather in cyanogen." The action of stimuli and the mechanism of life brings us to the end of the valuable 586 pages of which the work is composed.

**Lessons in Elementary Physiology.** — By THOMAS H. HUXLEY, LL.D., F.R.S. Enlarged and revised edition. London, 1900. MACMILLAN & Co.

THIS well-known manual on elementary physiology by the late Professor Huxley is now brought out, enlarged and revised by Sir Michael Foster and Dr. Lea. Although this is called the fifth edition, the little volume has been reprinted