

*Physiologie des Menschen.* By Dr. L. Luciani. German Edition by Dr. S. Baglioni and Dr. H. Winterstein. Part v. Pp. 161-320. (Jena: G. Fischer.) Price 4 marks.

THE fifth part of Dr. Luciani's text-book of physiology deals with the mechanical and chemical phenomena of digestion in the alimentary canal, with the absorption and storage of the food-stuffs, and with the excretory functions of the intestinal tract.

The first chapter gives an excellent account of the gastric movements, and of the nerve mechanism controlling them. The second chapter deals with the digestion of the various food materials by means of the pancreatic and intestinal juices, and of the bile. An exceptionally full *résumé* is given of the results following upon removal of extensive portions of the small intestine in animals and in man. The products and probable significance of bacterial digestion are also fully described and discussed.

The account of the peristaltic movements of the intestines and of the nerve mechanism controlling them is well brought up to date, giving briefly the results of the most recent researches in this field.

The final chapter treats of absorption in the stomach and intestines. The channels and mechanism of absorption of different food-stuffs—carbohydrates, fats, and proteids—are fully described. A very interesting epitome is given of the synthesis of the products of proteolysis and lipolysis by means of the intestinal epithelium. The theories with regard to the formation and fate of glycogen in the liver and muscles are critically reviewed. A brief account is also given of the various forms of pathological and experimental diabetes.

The fifth part of the work well maintains the high standard for accuracy and clearness set by its predecessors.

J. A. MILROY.

*Seta Artificiale.* By G. B. Baccioni. Pp. 231. (Milan: Ulrico Hoepli, 1906.) Price L3.50.

THIS is an interesting account of "artificial silk" or "lustra cellulose," an industry which has now assumed serious proportions; in fact, the present production of these new textile threads may be estimated at not less than six tons per day, chiefly manufactured in France, Germany, and Belgium. In the preface it is stated that a Società Italiana della Seta Artificiale in Pavia is the first organisation to undertake developments in Italy. The technology of the industry is briefly outlined in six chapters (pp. 230), attention being chiefly directed to the systems based upon the spinning of collodion (nitrocellulose). The alternative systems, based upon the Cuprammonium and "Viscose" solutions of cellulose, are also described.

The work is a compilation from various sources in the technical literature of cellulose, and makes no claim to an original treatment of the subject-matter. Its appeal will be chiefly to specialists.

The book is original as to binding, for which a silk fabric is employed—as a covering to the humble "board"—the weft of which is a lustra-cellulose yarn.

*Zwölf Vorlesungen über die Natur des Lichtes.* By Dr. J. Classen. Pp. x+249; diagrams. (Leipzig: G. J. Göschen, 1905.) Price 4 marks.

THESE lectures consist in a series delivered in the winter of 1904-5 in Hamburg to a popular audience. The theme of the lectures is the development of the wave-theory, culminating in the special form of this theory which postulates the essential identity of luminous and electromagnetic waves. The lectures

were illustrated experimentally, and a special feature in connection with them is the care taken in devising experiments of a simple and attractive kind. Although they were delivered to a lay public, it must not be supposed that they are popular in the bad sense. They are infused throughout with the scientific spirit; there is no sacrifice of accuracy on the altar of simplicity. The subject is dealt with in a way which must have proved very welcome to the non-professional listener who had some very elementary knowledge of it and desired to have the fundamental experimental facts brought before him in a consecutive way. Geometric propagation, dispersion of colour, interference and diffraction phenomena, double refraction and polarisation, electric oscillations and their quasi-optical properties, the explanation of the demonstrated relations between electrical conductivity and the optical properties of metals—these, in brief outline, are some of the chief phenomena which are expounded. Each experiment is described with the help of a diagram.

We have little but praise for this somewhat unpretentious volume. We note only that the devices attributed here (as usual) to Lecher and Blondlot are essentially the same as that employed previously by Sir O. Lodge in the investigation in which he was engaged when Hertz published his demonstration of the possibility of producing electromagnetic waves.

*A la Poursuite d'une Ombre.* By Prof. Moyer. Pp. 98. (Montpelier: G. Firmin, 1905.)

IN the seven chapters contained in this volume Prof. Moyer gives a popular account of the observations made by the Société astronomique Flammarion de Montpelier, at Alcalà de Chisbert, during the total eclipse of the sun on August 30, 1905. The eclipse party consisted of eleven persons, who made a series of valuable observations of the corona and the chromosphere with portable telescopes, spectroscopes, and cameras, and with the naked eye.

In addition to the account of the actual observations, the author discusses eclipse phenomena in general at some length, and gives the results obtained by previous observers since the commencement of detailed eclipse work. A number of drawings and photographs illustrate his remarks.

To anyone unfamiliar with solar eclipse work who desires to make a general survey of all the associated phenomena, and the methods employed in observing them, the book will afford a useful introduction to the subject, and will give him just an insight into the present theories concerning the different portions of our luminary.

*Ueber Vererbungsgesetze.* By C. Correns. Pp. 43. (Berlin: Gebrüder Borntraeger, 1905.) Price 1.50 marks.

ALTHOUGH only six years have elapsed since De Vries re-discovered the laws of heredity originally propounded by Gregor Mendel, Abbot of Brunn, in 1866, the subject has received so much attention—and in this country especially valuable work has been carried out—that many accounts of the general principles have been written. Prof. Correns, one of the foremost workers on the subject, publishes in this brochure the substance of a lecture delivered at Meran, dealing almost entirely with the botanical side. The account does not go far beyond Mendel's propositions, but the subject of *cryptomerie* is explained with the help of an excellent coloured plate of flowers of *Mirabilis*, and the writer refers to Galton's theory and the extent to which characters *mendelize*, i.e. develop according to Mendel's laws.