

*Artrópodos Parasitos*. By Prof. Daniel Greenway. Con prologo del Prof. Dr. Pedro Lacavera. Pp. viii+230. (Buenos Aires: La Ciencia tredecia, 1908.) This work, issued in 1908, is mainly a compiled account of some of the various Arthropoda that attack and annoy man and animals, or which are parasites or carry diseases. It commences with a description of the Linguatulidæ and Demodecidæ. Then follows an account of the Sarcoptidæ, especially dealing with the human itch mite (*Sarcoptes scabiei*). Several species of Tyroglyphidæ are figured, and also other mites. Information concerning the Ixodidæ, or ticks, covers twenty-one pages; and two useful tables of the genera are given. The piroplasma-carrying *Boophilus bovis* is shown on three coloured plates in adult male and female and larval stages.

Some poisonous spiders are referred to and figured, including the large *Mygala avicularia*. The insects take up most of the volume, extending from p. 89 to p. 221. After a general account of the Hexapods, the author commences with the parasitic and blood-sucking Hemiptera, dealing almost exclusively with the Pediculi.

The major part of this section concerns the Diptera, including the aphaniptera, or fleas. A good account of the "Jigger" (*Sarcopsylla penetrans*) is given.

This is followed by a description of the tsetse-flies, or Glossinæ, including a table of species, ten being tabulated, including *G. bocagei* (G. Franca, 1902). Notes are also given on the screw worm (*Compsomyia macellaria*), Dermatobia, and other Cæstridæ. A considerable space is devoted to a general outline of the family Culicidæ, with a coloured plate reproduced mainly from Arribalzaga's "Diptera Argentina." The central figure (No. 4) of *Anopheles claviger (maculipennis)* is scarcely recognisable.

Some misprints may be noticed, such as *eolopus* for *calopus* (Fig. 149), *bobis* for *bovis* (p. 181), &c.

F. V. T.

*Der Kampf um Kernfragen der Entwicklungs- und Vererbungslehre*. By Oscar Hertwig. Pp. iv+122. (Jena: G. Fischer, 1909.) Price 3 marks.

WITH his usual clearness, Prof. Oscar Hertwig sums up the situation as regards the rôle of the nucleus in heredity. After stating the foundations of fact on which theories of heredity and development must be built, he enters upon a careful discussion of the important question whether the nucleus is the sole vehicle of heritable qualities. As Fick puts it, Has the nucleus a "Vererbungsmonopol"? The author defends against all-comers the "Hertwig-Strasburger (1884) hypothesis of the localisation of the idioplasm in the nuclear substances," and his arguments are put with much force. They are seven in all, the three best being the equivalence of ovum and spermatozoon as regards nuclear material, the precise partition of nuclear substance in karyokinesis, and the reduction which obviates an accumulation of nuclear material. The case is argued with fairness, and the difficulties which abound are considered carefully, the general conclusion being that the 1884 hypothesis is consistent with a large series of important facts, and that no well-established fact is inconsistent with it.

There is much interesting discussion in the volume, which is conspicuously lucid throughout. We should also refer here to the revised and enlarged edition (Jena: Fischer, pp. 46) of a lecture which Hertwig gave in 1900 on the development of biology in the nineteenth century. It is interesting to notice from the additions that the author is of opinion that actual advances in knowledge necessitate a re-consideration of the theory of natural selection, the Lamarckian theory of direct adaptation, and the recapitulation doctrine.

(1) *Man in Many Lands: Being an Introduction to the Study of Geographic Control*. By Prof. L. W. Lyde. Pp. vii+184. (London: A. and C. Black, 1910.) Price 2s. 6d.

(2) *Questions on Herbertson's Senior Geography*. By F. M. Kirk. Statistical Appendix by E. G. R. Taylor. Pp. 64. (Oxford: Clarendon Press, 1910.) Price 1s.

(3) *Experimental Geography*. By G. C. Dingwall. Pp. vii+168. (London: George Bell and Sons, 1910.) Price 2s. 6d.

(4) *Cambridge County Geographies. Cornwall*. By S. Baring-Gould. Pp. ix+164. (Cambridge: University Press, 1910.) Price 1s. 6d.

THOUGH all are intended to assist school pupils to learn geography, these books have very little in common, so far as the methods adopted by the various writers are concerned. The books show vividly the present diversity of opinion as to the best way of teaching geography. The teacher has a difficult task just now in deciding the course his lessons should take, for the examining and inspecting authorities he has perforce to serve are not yet agreed among themselves. Fortunately, there is a growing conviction that the best results are obtained only when the pupils participate actively in the lessons; and the plan is becoming more and more common of setting children to work for themselves exercises designed to bring out some important principle or fact. The second and third of the volumes under notice will assist the teacher in this part of his work; the third especially, though it follows lines which have been laid down by previous books, will indicate ways in which the pupil may be taught to make his own text-book.

Prof. Lyde maintains his reputation as an experienced teacher. His book is an excellent example of the way in which the practical teacher can make geography a valuable instrument for training boys and girls to reason intelligently. The well-selected coloured illustrations add greatly to the attractiveness of the book.

The last volume is well up to the high standard of the series to which it belongs.

*Highways and Byways in Buckinghamshire*. By Clement Shorter. With illustrations by F. L. Griggs. Pp. xix+344. (London: Macmillan and Co., Ltd., 1910.) Price 6s.

A COUNTY or a country may be described from various points of view, and in each case the things seen will depend upon the temperament or sympathies of the observer. In this addition to an admirable series of guide-books, the predominant view is that of prominent persons connected with a county which is rich in historic interest. Of the natural history or geography of the county there is nothing, but the human side, which appeals to a wider circle of readers, is presented in a style that commands attention. A few lines are given to Sir William Herschel in connection with Slough, and mention is made of Sir Kenelm Digby, who first brought Sir Thomas Browne's "Religio Medici" into notice, but little more is said of the association of science with the county. Perhaps the mention of Hester Sandys, who married Sir Thomas Temple, of Stowe, and lived to see seven hundred descendants from the union, will interest biologists. Mr. Shorter acknowledges that he is concerned only with the personal element of Buckinghamshire; so while we may regret the limitations thus imposed upon the county's attractions, it would be unjust to apply to his attractive volume any other standards than those of biography and history. There is no lack of living interest, and the volume is sure to be read widely both within and without the county.