

section of the work being devoted to the legislation concerning the animal in question, while the fourth bears the mysterious title of "The Hare and her Trod." From reading the text, we infer that "trod" has something to do with poaching, although of its precise signification we are still in ignorance.

In the preface to the series the editor makes it to be understood that the natural history of the animals forming the subjects of the different volumes will be treated somewhat fully. We are, however, very doubtful whether the more or less discursive gossip communicated by Mr. Macpherson is entitled to be regarded as natural history at all. There exist, it may be remembered, as models for popular monographs of any particular animal, the little volume on "The Horse," by Sir W. H. Flower, and the more pretentious work of Prof. Mivart on "The Cat"; and the author would, we think, have done well to have followed somewhat on those lines. Instead of having done this, we are not even told that the hare is a rodent, much less do we learn anything about its relatives of the same genus, and the points in which these latter differ. Beyond a few observations as to its occurrence in the different counties of Britain, and certain variations in colour and size assumed by the animal in some European countries, we are left absolutely in the dark as to the geographical range of the common hare—a subject which well merits full consideration in a work of this nature. Throughout the first chapter we find no mention of either the generic or specific names of the hare; a matter which might be passed without comment, were it not that on page 12 both scientific names of an unimportant parasite are introduced without any possible advantage. When, however, we reach page 30, we find mention for the first time of the genus *Lepus* in connection with two American species; the reader—if not a naturalist—being left to find out for himself whether the common hare is or is not a member of the same genus. What might be the aforesaid uninstructed reader's view as to the zoological position of the rabbit, we dare not hazard a guess!

Such observations as are given on the natural history of the hare, appear to relate chiefly to its breeding habits, its marvellous speed, and the depredations it commits on farm and garden crops. Although doubtless accurate enough in this way, they are very far from forming anything like a complete history of the animal, and are too discursive for our own taste, even in a popular book. Nothing in the way of new facts appears to be given, although this may well be excused.

As may be inferred from what we have written, the whole of the natural history portion of the work is from the pen of Mr. Macpherson. Several authors—among whom may be named the Hon. G. Lascelles and Mr. C. Richardson—are, however, responsible for the sporting sections; while the chapter on cookery has been written by Colonel K. Herbert. Whatever may be its shortcomings from a zoological point of view, the work, so far as we can judge, from the sporting aspect is in every way admirable, and it ought specially to become an invaluable companion to the country gentleman. The numerous fine illustrations make the volume excellent from an artistic point of view.

R. L.

#### OUR BOOK SHELF.

*Grundriss einer Geschichte der Naturwissenschaften.* Von Dr. Friedrich Dannemann. I. Band. Erläuterte Abschnitte aus der Werken hervorragender Naturforscher. Pp. xii + 375. (Leipzig: Wilhelm Engelmann, 1896.)

THE idea upon which this book is constructed is an admirable one. By means of extracts and translations from the writings of great philosophers and investigators, a panorama of scientific history is presented in a most attractive form. Beginning with Aristotle and his Natural History, the author passes before the reader in historical succession the works and thoughts of Archimedes, Copernicus, Galileo, Gilbert, Kepler, Newton, Huyghens, Laplace, Lavoisier, Blumenbach, Cuvier, Darwin, and the host of other great thinkers and workers, who have helped to build up the edifice of scientific knowledge. To do this, Ostwald's excellent series of "Klassiker der exakten Wissenschaften" have been largely utilised. But we hasten to remark that the present volume does not merely consist of extracts and illustrations from series of reprints. A biographical note precedes the story in which each investigator tells of his work, and helpful editorial notes are distributed throughout the book.

The work will be completed in two volumes, and we look forward with pleasure to the publication of the second one. The best text-book is the one which brings the student into close contact with the investigator, and thus creates in him a spirit of emulation. Dr. Dannemann's volume shows how this kindred feeling can be developed; therefore we welcome it as a valuable addition to scientific literature.

*The Biological Problem of To-day. Preformation or Epigenesis? The Basis of a Theory of Organic Development.* By Prof. Dr. Oscar Hertwig. Authorised translation by P. Chalmers Mitchell, M.A. Pp. xix + 148. (London: William Heinemann, 1896.)

THE German edition of Dr. Hertwig's discursive treatise—"Präformation oder Epigenese?"—was so fully reviewed in these columns shortly after it appeared (vol. li. p. 265, 1895), that it is unnecessary to state again the criticism contained in it of Weismann's theory of the germ-plasm and doctrine of determinants, or to go over Dr. Hertwig's own theory of the development of organisms. The fact that this translation is an authorised one, and that it bears the name of Mr. Chalmers Mitchell, is a sufficient guarantee for biologists that the arguments set forth in the original edition are faithfully reproduced. In a lucid introduction, Mr. Chalmers Mitchell states the positions taken by Weismann and Hertwig, and points to the issue involved. This statement, and the glossary of technical terms, will be very helpful to readers who have but a general idea of the matters on which the argument turns. The German words "Erbgleich" and "Erbungleich," which Mr. Bourne proposed to translate isoclonomic and anisoclonomic, have been rendered by the words "doubling" and "differentiating." The word "rudiment" has been used as the equivalent of "Anlage," and most biologists will agree that it well covers the meaning of the German word.

Every one interested in the problems of heredity will be grateful for this translation of a very important treatise.

*The X-Rays.* By Arthur Thornton, M.A. Pp. 63. 25 illustrations. (Bradford: Percy Lund and Co., Ltd. 1896.)

THIS slender brochure contains a general statement of the nature of sound, light, electrical vibrations, and electrical discharges through gases, together with brief instructions for observing and photographing Röntgen phenomena, and an explanation of the theories concerning the nature of Röntgen rays. For readers desirous of obtaining an idea of the prominent features of Röntgen's discovery, the book may be recommended.