suffering hosts was expressly designed in order that man might appreciate the benevolence of the "Creator." Such a conception is too horrible to be entertained by reasonable creatures; nevertheless, it is in perfect harmony with certain other grossly anthropomorphic conceptions of Deity that are too commonly taught amongst us.

The general reader will not be able to follow M. Van Beneden very closely, unless he possesses a considerable amount of zoological knowledge; and he will find the book overladen with scientific terms. The naturalist, on the other hand, will be disappointed by the paucity of literary references. Whilst our author shows himself to possess a profound knowledge of the facts of commensalism, his volume is very deficient in the treatment of the subject of parasitism, properly so called, more especially when he deals with those forms that are known as Entozoa. He has omitted all mention of some of the most important helminthological contributions and discoveries of recent times. Thus, there is no allusion to Lewis's "find" respecting nematoid hæmatozoa, and almost nothing is said of the ravages produced amongst domesticated animals by a variety of well-known internal parasites. In some places our author misleads, as in the case of the history of the discovery of *Trichina*, where Sir J. Paget's name is altogether omitted; and also, in the case of *Bothriocephalus*, where Knoch's views on the possibility of infection without the necessity of an intermediary bearer appear to be countenanced.

Some of the illustrations are very poor, and the misspelling of authors' names and of technical words is exceedingly frequent. The author appears to be but little informed respecting the writings of German and English helminthologists. Notwithstanding these defects, M. Van Beneden's book ought to be purchased by every intelligent naturalist. T. S. COBBOLD

OUR BOOK SHELF

The Scholar's Algebra: an Introductory Work on Algebra. By Lewis Hensley, M.A. (Oxford: Clarendon Press; London: Macmillan and Co., 1875.)

THIS is one of the Clarendon Press Series, hence we are saved all necessity of remarking upon the get-up of the volume. We had hardly expected that Mr. Hensley could have imparted any freshness to his treatment of so hackneyed a subject as an Elementary Algebra, but he has done so, and we have read his work with much interest. It does not follow the usual course observed in similar treatises either in its contents or in their arrangement. Our author himself expressly states that the work professes to be an introductory one on algebra. He takes up the scholar who has been well-grounded in arithmetic and endeavours to explain from the outset what algebra is, what its aims, and what the chief forms of its utility. In this attempt he has succeeded, and the work is likely to be of use to students who are reviving an acquaintance with the subject acquired at school, but especially is it suited to self-taught students. For these latter it is, we think, one of the best text-books hitherto brought out. The first seventy pages are devoted to the symbols, signs, and elementary rules; in this section we have a good chapter on Ratio and Proportion, including a glance at incommensurables. Though treated at this length, the scholar is hardly likely to grow weary in his work, and he is laying at the same time a safe and solid foundation for future use.

In Part II. we have Algebraical formulæ (Interest, the Progressions), then Equations (Simple and Quadratic), next Investigation of Methods (Involution and Evolution), closing with a supplement on unknown quantities, Inequalities, Indices (fractional and negative). The third Part opens up to the student under Algebraical formulæ, Permutations, Binomial Theorem, Notation, Harmonic Progression, and simple series, then Equations (more advanced than the previous ones), Surds, Indeterminate Equations and applications of Horner's method. We have then a chapter on Continued Fractions[1] and another on Logarithms. Some idea of the character of the work will be got from the order and nature of the subjects above mentioned, and it will be seen that a prominent feature is the importance attached to methods of calculation. Indeed, Mr. Hensley says he has remarked in the Universities a growing disposition to compel the student of the higher mathematics to interpret his results numerically. To this he gives the weight of his experience: "There can be no better guarantee that he understands what he is about." We may mention that the extension of meaning of the negative sign and of symbols generally, though but slightly glanced at, is yet introduced to the reader's notice. No place is given to properties of numbers, multinomial theorems, convergency of series, higher series, or probabilities. The curriculum is much that laid down by the London University for candidates for the first B.A. (Pass), and we can recommend the book before us as one well suited for such candidates, as containing all they require, and but little beyond what they need take up for the examination.

We shall touch lightly here upon the errata. They are not very serious, and though somewhat numerous, do not by any means come up to the usual standard in this respect of first editions. On p. 98, line 5, for youngest read eldest; p. 127, last three lines, statements should be *vice versâ*; p. 205, line 5 up, read 7×52.

LETTERS TO THE EDITOR

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.*]

Fritz Müller on Brazil Kitchen Middens, Habits of Ants, &c.

[MR. CHARLES DARWIN has kindly sent us for publication the following letter, addressed to him by Herr Fritz Müller, the well-known naturalist, brother of our contributor, Dr. Hermann Müller, and who has for so long been devoting himself to natural history researches in Brazil.]

My dear Sir,—In Desterro I met with two young men (M. Charles Wiener, of Paris, and M. Carl Schreiner, from the National Museum of Rio) who, by order of the Brazilian Government, were examining the "Sambaquis" of our province. I accompanied them in some of their excursions. These "Sambaquis," or "Casqueiros," are hillocks of shells accumulated by the former inhabitants of our coast; they exist in great number, and some of them are now to be found at a distance of several miles from the sea-shore, though originally they were, of course, built near the spot where the shells lived. Some are of considerable size; we were told that a Sambaqui on a little island near San Francisco had a height of about 100 metres; but the largest I have seen myself did not exceed 10 or 12 metres. As to the shells of which they are composed, the Sambaquis may be divided into three classes, viz.: (1) Sambaquis, consisting of many different species of bivalve and univalve shells (Venus, Cardium,

[1] We observe that our author says that these were first used by Lord Brounker; it has been shown that Cataldi has a prior claim to this distinction.