the most readable of modern books of travel. The work is divided into three parts, the first treating of the petrels, the second of the frigate-birds, gannets, and tropic birds, and the third of the gulls and terns. Mr. Green has given a very correct account of all the best-known species belonging to these groups, and for a second edition he may find a few useful notes on some of his marine friends in the volume published by the Royal Society on the Transit of Venus Expedition to Kerguelen Island. One at least of the notes here published is given by Mr. Green, but only as an extract from our volume of "Aves" in "Cassell's Natural History." The illustrations which accompany the work may be sufficient to identify the various species represented, especially the albatrosses, but they are rather roughly done, and that of the flying petrel is nothing but a caricature. No figures taken from mounted birds are ever satisfactory, and Miss Green's illustrations are no exception to the rule.

Mr. Arnold's little work will rank with any that we know of for pleasant reading, either from a sportsman's or an ornithologist's point of view. Some of the descriptions of game and wild-fowl shooting are exceptionally good, and carry with them a scent of the moor and the sea. Despite an acquaintance with several standard works on birds, the author seems to cling with respect to some of the more pretentious but second-rate books which pass muster as histories of British birds. It is, however, somewhat of a treat to find His Royal and Serene Highness the Prince of Mantua and Montferrat (!) spoken of under his original title of Groom Napier, though we should never call him a "first-class" authority. Many well-known names are wrongly spelt throughout the book, and these shortcomings should be corrected in a subsequent edition, when we should also like to see that Seebohm's excellent "History of British Birds" has come under the author's ken. It is to works on natural history like Mr. Arnold's, where real instruction is conveyed in elegant English, so that the acquisition of knowledge is rendered pleasant and easy, that we owe so much of the interest which has of late years been awakened in scientific pursuits; and we should be captious indeed were we to point out small errors in a book the perusal of which has given us so much enjoyment. Not the least useful feature of the work is a chapter by Mr. Brodie Innes on "Grouse Moors and Deer-Forests."

Should the works under review pass into a second edition, we should be glad to point out to the authors certain emendations which have occurred to us, of too little moment, perhaps, to mention in a review, but which would add somewhat to the finish of the volumes.

R. BOWDLER SHARPE.

OUR BOOK SHELF.

First Lessons in Science; designed for the use of Children. By the Right Rev. J. W. Colenso, D.D. (London: Ridgway, 1887.)

THIS book was written more than a quarter of a century ago for the use of a class of natives of the diocese of Natal, who were learning to read English. Since then the greater part of it has been rewritten in order to adapt it to the necessities of European children. As far as possible the earlier lessons are written in words of one syllable, so that they are well fitted for the use of those for whom they are intended.

The object of the work is to furnish the readers with useful information concerning the things around them, in place of the usual childish stories contained in the first books of English; at the same time presenting only such facts as ought, according to the good Bishop, and we quite agree with him, to be known by everyone. We venture to think that in this respect the native students under Bishop Colenso's care were much better off, having these lessons in their possession, than the boys and girls of our own schools who were learning English at the same time.

By far the greater part of the book is devoted to astronomy, to which subject it forms really an admirable introduction. This of course necessitates the introduction and explanation of many geometrical and optical terms, all of which are put forth in the best possible way. The physical features, and orbital and apparent motions of all the members of our system, including comets and meteorites, are fully considered, as are also the apparent motions of the stars.

The reasons are also given why the observed place of a heavenly body should be corrected for refraction, parallax, aberration, precession, and nutation. Kepler's laws and the law of gravitation also come in for a fair share of attention.

Some of the figures should be brought up to date. We are told that the earth is 96,000,000 miles from the sun, and that between forty and fifty minor planets are known; whereas the distance of the sun is between 92,000,000 and 93,000,000 miles, and no less than 268 minor planets are now on our lists.

It is to be regretted that books of this kind, written in clear, simple language, are not more appreciated by those responsible for the selection of reading-books for our elementary schools.

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.*

[*The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.*]

On the Constant P in Observations of Terrestrial Magnetism.

IN regard to the quantity P, depending on the distribution of magnetism in a pair of magnets employed for measuring terrestrial horizontal force, for the calculation of which Prof. Harkness, in NATURE for August 18, p. 366, gives a simplified expression, may I be allowed to mention that a yet more simple modification of the ordinary formula has been used in the Greenwich observations since the year 1878, in which, the difference between A and A_1 being small,

$$P = (\log A - \log A_1) \times \frac{r_1^2 \, r^2}{(r_1^2 - r^2) \text{ modulus}}.$$

When the two distances employed are, as is usual, always the same, the factor becomes a constant, being, for $r = 1 \cdot 0$ foot and $r_1 = 1 \cdot 3$ foot, $= 5 \cdot 64$. The advantage of the form is that as, in the calculation, the logarithms of A and A_1 are first arrived at, their difference multiplied by $5 \cdot 64$ at once gives P. Mention of this is made in the introduction to the Greenwich Magnetical Observations for 1878, and in those for some following years, although omitted from the more recent volumes.

WILLIAM ELLIS.

Royal Observatory, Greenwich, August 24.