matter), and to every page its own private "prop." These are merits which the editor can rightly appropriate to himself (which he does in his Preface).

On the dexter page, *in ordine longo*, come the "references," saving the pupil the horrid nuisance of turning back (as he lies prone on the ground) to see what "def. 15" is, and this kind (?) action is carried on to Prop. 48. So that if this one definition had obtruded itself into each proposition, it would have been printed forty-eight times and ever would it have greeted the student with a cheery "Here we are again!"

But this is a fault—unless all the first book could be printed on one side of a not too unwieldy page—which Mr. Arnett's book must be content to share with our "Revised Bible" references to such words as "slave" for the A.V. "servant."

Below the "references" come a very copious collection of riders. We have looked at the ludicrous side of matters, but it would be doing Mr. Arnett a very great injustice if we confined our attention to all the conveniences he has got together to ease the work of this class of students, of whom (*horres cimus referentes*) we have had experience in time past, in getting up this particular subject.

Throughout there is plenty of judicious explanation and illustration: the theorems are grouped in sections of subject-matter, as direct and converse theorems, so are the problems in sections, and there is a genealogical chart for the first twenty-six propositions. In fact nothing is scamped.

To return to the dexter page, the riders are exceedingly varied and well-grouped, and are calculated to draw out the intelligence of a thoughtful pupil if such an one uses the book.

If the first book of the glorious "Elements" must be edited at such length, we commend Mr. Arnett's edition to those who require such "props" as are here supplied, feeling convinced that if they cannot master the "props" with them, then the study of geometry is not their proper work.

Botany. A Specific Subject of Instruction in Public Elementary Schools. By Vincent T. Murché. (London: Blackie and Son, 1885.)

THE preface to this little volume states that "the three books which form this series are emphatically children's books, and not text-books for South Kensington students." As long as the author confines himself to that part of the science which is, in our opinion, best adapted to the mind of a child, his "chatty, experimental method" may very probably gain the attention of youthful readers. The first forty-eight pages, which he devotes to external morphology, are unpretentious and successful. We may well wish that the author had confined himself to external morphology; but he launches out into anatomy and physiology—branches of the science which are ill-adapted at best to the mind of a child: in this middle section of the book his success leaves him when he states that "the epidermis of the orange consists . . . of a thick peel;" that "there is in every plant . . . a peculiar vital fluid which is the source of all its solid parts;" this, we are told, is found in spring "in an active state between the bark and the wood. In this condition it is called *cambium!*" It is also stated (p. 58) that the cells of the pith "form the channel by which all the fluids absorbed by the roots are carried upwards towards the leaves and flowers," while the part played in the transfer of fluids by the lignified walls is systematically ignored, and it is expressly stated on p. 78 that "there can be no passage of fluids up or down, except by the process of osmosis." When the author leaves this part of the subject, on which he is, to say the least, not very sound, his success again returns: he describes simply and clearly the chief characters of the flower and fruit; but concludes with a condensed and not very satisfactory treatment of some of the lower forms of vegetable life.

It is unfortunate that a book, parts of which might prove so useful, should be disfigured by serious blunders; why should not the proof-sheets, in cases like the present, be submitted to some competent authority, who would easily sift out the grosser errors? F. O. B.

Journal of the Royal Agricultural Society of England. Second Series. Vol. 21, Part I. (London: John Murray, 1885.)

THIS journal fully maintains the high character it has acquired under the able editorship of Mr. H. M. Jenkins. The part under notice is a bulky volume of nearly five hundred pages, and includes some eight or ten original papers by well-known agricultural writers, besides the always valuable annual reports of the entomologist, chemist, and botanist to the Society. Prof. Wortley Axe reports on a recent outbreak of abortion in Lincolnshire ewe-flocks, and Prof. Robertson on anæmia in sheep. Mr. S. B. S. Druce, Barrister-at-Law, has a significant paper on the alteration in the distribution of the agricultural population of England and Wales between the returns of the census of 1871 and 1881. Dr. J. H. Gilbert, F.R.S., contributes a sympathetic memoir of the late Dr. Augustus Voelcker, the paper being accompanied by a graphic portrait. Sir J. B. Lawes, F.R.S., writing on sugar as a food for stock, concludes that even at its present low price, sugar does not appear to be an economical substance to use when brought into comparison with other foods which are available to the farmer. Mr. H. Ling Roth writes on Franco-Swiss dairy farming, and Mr. W. Little on the agriculture of Glamorganshire, while the longest contribution to the current part is the first instalment of a report on Canadian agriculture, by Prof. Fream. The author confines his remarks chiefly to the prairie region of British North America, and after discussing the physical and geological features of this vast region, the character of its soils, the composition and value of its native herbage, and the peculiarities of its climate, he proceeds to give an exhaustive description of the agriculture of Manitoba and the North-West Territories, and concludes with an expression of his opinions as to the probable future of prairie farming. The moderate and impartial spirit in which this paper is written will enhance its value to readers on both sides of the Atlantic, and lead them to look forward to the publication of the second part, in which it is proposed to deal with the agriculture of the Eastern Provinces of the Dominion. In the course of his inquiries, Prof. Fream appears to have discovered in "goose wheat" a novelty both of botanical and agricultural interest. This part of the *Journal* also contains a report on the field and feeding experiments at Woburn, by Dr. J. Augustus Voelcker, in which the author gives evidence of the same attention to accuracy and matters of detail as were so eminently characteristic of his late father, to whose vacant post as consulting chemist to the Society he was recently elected by the Council.

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.*]

"An Earthquake Invention"

WITH reference to the correspondence on this subject in this week's NATURE (vol. xxxii. p. 213), will you permit me to state that the gentleman to whose paper in the British Association Report for 1884 Prof. Piazzi Smyth refers has long been a