schools has been already noticed in NATURE (vol. xxxi. p. 19), and the paper before us, by the Principal of the Royal Agricultural College, Cirencester, is another product of the Conferences. The author looks on agriculture broadly, as extending, like the theme of the poet of the "Georgics,"—

". . . super arvorum cultu per corumque
Et super arboribus,"

and in a well-reasoned and well-written paper pleads for the teaching of the natural sciences, their facts, laws, methods, and applications to agriculture, to those who have the direction of agriculture in this country, or who seek fortunes in the soils of new countries. Cowley, two centuries ago, asked, "Who is there among our gentry that does not entertain a dancing-master for his children as soon as they can walk? But did ever any father provide a tutor for his son to instruct him betimes in the nature and improvements of that land which he intended to leave him?" Though this reproach is not deserved so much now as when it was written, it is still not wholly unmerited, and will so remain until those who have the possession and management of landed property shall receive some special training such as that sketched out by Mr. McClellan. This training, if fairly common, would do far more to mitigate agricultural depression than any amount of piecemeal legislation. The paper is a useful addendum to Mr. Jenkins's recent report on agricultural education, and it may be commended to the attention of landowners and others connected with agriculture.

The Text of Euclid's Geometry. Book I., uniformly and systematically arranged. With a discussion of Euclid's application of logical principles, copious notes, exercises, and a figure-book. By J. Dallin Paul, R.N. (Cambridge: Deighton, Bell, and Co., 1884.)

THIS is a "prodigious" work of 182 pages demy 8vo, printed on excellent paper, with clearly-drawn figures, devoted to the "painful" elucidation of all the difficulties to be found in the first book of Euclid's Geometry, with such other matter as hath been adumbrated in the above-cited title-page. The road may be an easy one to walk in, all stones of offence being carefully put on one side or so rearranged that the wayfarer may not stumble as he saunters along it, but it certainly is a long road. The tendency of modern agitation a few years ago was to condense our text-books with a view to get up geometry in the minimum of time, but experience has taught us that in the majority of cases junior boys are very tender-footed, and cannot be driven along the geometrical path, and so there has been a reversion to the "grand old" book with many an aid to lure the young into paths not naturally attractive to them. We do not find fault with these attempts—we have recently noticed in these columns two admirable editions of the "Elements,"—but Mr. Paul has taken, we think, an extreme course: at some perhaps not distant date, if this sort of editing is catching, we shall have a similarly got-up work devoted to Euclid's treatment of isosceles triangles with a preliminary chapter on an axiom.

Our author has had so much to do with Euclid that his views of life have possibly got to be Euclid-tinted, and he sees nothing but Euclid! It would be no wonder, for his own words are, in deprecation of the presumption of adding another edition to the many that have gone before, "having been teaching Euclid almost daily for the last twenty years to pupils who, before coming under his tuition, had learnt something of geometry from the different text-books in use during that time, he ventures to think that this experience has made manifest to him the principal advantages and disadvantages of these numerous works, and thereby enabled him to present the propositions in the form most likely to be of educational value to those who are beginning either to learn or to teach the subject." We have allowed the author to put so much in evidence that the majority of our readers may gather that this is not "just the book they wanted" for themselves, and yet may see the scope of Mr. Paul's labours.

We cannot commend the author's action in placing the notes on the propositions in the early part of the book; experience has shown him that when placed in their usual position at the end they are passed by, but their actual position here offends *our* eye, and will not, we fancy, secure the writer's object. We regret that the writer has spent so much time and thought to so little purpose, as we believe, for we cannot imagine who will be the public that will purchase his book, its size and price are a bar to its introduction into school use. We close with remarking that there is a good deal that may be of use to (say) a pupil-teacher, or to one who is not strong in geometry and yet has to teach young pupils; but much, if not all, of this, can be got in handier text-books. A good feature is the placing at the end the particular enunciations of the propositions with the diagrams placed in positions very different from those which they had in the text: this would enable a pupil to test his acquaintance with the subject. R. T.

Das kleine botanische Practicum für Anfänger. Von Dr. Eduard Strasburger. Mit 114 Holzschnitten. (Jena, 1884.)

A BOOK by Prof. Strasburger, entitled "Das botanische Practicum," has recently been reviewed in NATURE, and recognised as a most valuable addition to botanical literature. The same author has now produced a condensed edition of the same book under the heading given above. The more important of the facts distributed through the 600 pages of the first and larger edition are here collected into the smaller space of 250 pages, an arrangement which is obviously better suited to beginners. It was specially remarked in the review of the larger edition that the efficient study of the various types named would occupy the average student a longer time than the author of the book appeared to think. This smaller edition will obviate the difficulty by supplying the elementary student with a shorter course of study, while the larger book will no doubt be found more useful as a book of reference for more advanced students, or as providing a curriculum for those who will make botany their profession. The merits of good type and excellent illustrations are to be found in this smaller book in as high a degree as in the earlier and larger edition. F. O. B.

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.*]

Dr. Koch and the Comma-Bacterium

THE article published in NATURE of December 4, setting forth Dr. Koch's well-known theories with regard to the connection of a comma-shaped micro-organism with cholera, serves very efficiently as the text for one who desires to point out the deficiencies in Dr. Koch's observations and reasonings on this subject. The article is the most favourable statement which can be made on the side of those who accept Dr. Koch's conclusions, and is to a certain extent not quite fair to his opponents, since his original statements are not clearly separated from the subsequent statements which he has made in reply to criticisms.

In opposing Dr. Koch's conclusions, it is desirable at the very first to state clearly that those who accept them appear to labour under two important misconceptions, the first being that Dr. Koch is, and has been for a long time, acquainted with *every* form (and the complete history of every form) of Schizomycetes or Bacteria existing, whether in the healthy body or in disease,