Dynamics and Hydrostatics. By R. H. Pinkerton, B.A. (London: Blackie and Son, 1888.)

THIS is a first course of dynamics intended for the use of science classes and colleges, and specially adapted to the requirements of the Science and Art Examinations in theoretical mechanics. The subject is treated mathematically, but the mathematical knowledge required for an intelligent perusal of the book is limited to elementary algebra and trigonometry. The fundamental units are thoroughly well explained, and, which is saying a great deal, they are used consistently throughout. Every important proposition is followed by a number of good examples fully worked out, and many others are given as exercises.

The book is excellently adapted to the Second Stage of the Science and Art Syllabus, and teachers will not have much difficulty in selecting the portions suitable for students working for the First Stage. It is also well adapted for the use of students working at the subject for the London Matriculation and other University Examinations. But, notwithstanding these qualifications, it is thoroughly conscientious. In fact, from a mathematical point of view, the book leaves nothing to be desired, but in this practical generation a greater number of illustrations from every-day life would not have been out of place. A. F.

Geography for Schools. By Alfred Hughes, M.A. Part I. Practical Geography. (Oxford: At the Clarendon Press, 1887.)

THERE are many signs that the study of geography will in future take a much more important place in the ordinary school course than has hitherto been assigned to it. Even from the point of view of those severely practical persons who care little about the purely intellectual aspects of education, there can be no doubt as to the value of the kind of geographical knowledge with which this book is chiefly concerned; and the subject, if properly treated, is one in which young scholars may easily be led to take genuine interest. The present volume will be of great service to schoolmasters who may wish to make a fresh start in geographical teaching. It is based, as Mr. Hughes explains, on the results of seven years' experience in the modern side at the Manchester Grammar School; and no one who examines the book will be surprised that he has found it possible, within the limits of an ordinary term's geographical course, to give instruction on many classes of problems which are not usually treated at school. He begins with the consideration of latitude and longitude, and with rules for the drawing of maps from the atlas and from memory. He then deals with the measurement of the distance between two places on the earth's surface, and explains the rotation of the earth, with the consequent difference in the time of day at two places on the earth. The remaining subjects are the apparent movements of the fixed stars; the Pole star; Polar distance; the apparent movements of the sun; the seasons; meridian altitude of the sun; declination; the length of day and night at any time and place; the sun's altitude; place of sunrise and sunset; the length of twilight; apparent and Greenwich mean time; movements of the earth; the length of shadows; the distance to be seen from mountain summits; the trade winds; and the calendar. The questions connected with these subjects are discussed in a way that secures the combination of geography, geometrical drawing, arithmetic, and the elementary ideas of geometry; and the author's aim is to induce the student to think for himself, rather than to burden his memory with disconnected facts. It is hardly necessary to say how much better this is than the learning of the names of capes, mountains, rivers, &c., by heart. With such a work in their hands, teachers should be able to make lessons in geography a most useful introduction to the study of some important branches of scientific method.

Key to Todhunter's Differential Calculus. By H. St. J. Hunter, M.A. (London: Macmillan and Co., 1888.)

THIS "Key" will be extremely useful to those who are teaching the subject, but more so to those who are getting it up by themselves. The examples are worked out in a clear and intelligible manner, the geometrical problems being so worded that the student can supply figures to enable him more readily to follow the reasoning. To the chapters on "Curve Tracing" and "Miscellaneous Propositions" the author has added figures; and in the solutions to some of the examples in chaps. xi., xiii., xv., xx., and xxii., improved methods have been adopted, making the book more useful and complete. Great care seems to have been taken to insure accuracy.

Electrical Instrument Making for Amateurs. By S. R. Bottone. (London: Whittaker and Co., 1888.)

IN this little book the author has placed before the reader very good and economical methods of making the more useful pieces of electrical apparatus, using only tools of the simplest kind, such as may be found in any household. The instructions are given in a clear and simple manner, and are illustrated by woodcuts, showing the various parts of the apparatus, with the proportions marked on them. Those who are attending courses of lectures on this subject will find this volume immensely useful, as a more thorough and practical insight is obtained by making and using these instruments, however rough, than by mere reading.

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.*]

Language = Reason.

PROF. ST. GEORGE MIVART has read my letter on "Language = Reason" in NATURE of February 2 (p. 323) with very great care, and I feel grateful to him for several suggestive remarks. But has he read the heavy volume to which that letter refers—my "Science of Thought"? I doubt it, and have of course no right to expect it, for I know but too well myself how difficult it is for a man who writes books to read any but the most necessary books. I only mention it as an excuse for what might otherwise seem conceited—namely, my answering most of his questions and criticisms by references to my own book.

Prof. Mivart begins by asking why I should have explained reasoning by reckoning.

Now, first of all, from an historical point of view—and this to a man who considers evolution far more firmly established in language than in any other realm of Nature is always the most important—the Latin *ratio*, from which came *raison* and our own *reason*, meant originally reckoning, casting up, calculation, computation, long before it came to mean the so-called faculty of the mind which forms the basis of computation and calculation, judgment, understanding and reason.

Secondly, I began my book on the "Science of Thought" with a quotation from Hobbes, that all our thinking consisted in addition and subtraction, and I claimed the liberty to use the word thinking throughout my own book in the sense of combining. Such a definition of thinking may be right or wrong, but provided a word is always used in the sense in which from the beginning it has been defined there can at all events be no misapprehension nor just cause of complaint on the part of the critic