

appear as his co-inventors on the Plates illustrating these different appliances.

The accuracy attained with Sigsbee's sounding-machine is very great, the probable error of sounding with piano wire at great depths not exceeding one quarter of one per cent. What the error may be if soundings taken by the old methods will only be known when all the former rope soundings have been repeated with wire soundings.

The last chapters are taken up with descriptions of the double trawls, the dredges, and other apparatus for collecting the animals found at great depths. An account is also given of making a haul at great depth and of the management of the steel wire rope, first introduced by Mr. Agassiz for deep-sea dredging on the *Blake*, and which has done so much to facilitate this class of work on vessels of the small tonnage of the *Blake*.

The Report is fully illustrated with heliotype plates as well as with tables showing the manner of recording the observations made.

It is pleasant to notice that the harmony between the civilians and the officers was not for an instant disturbed, during the three dredging cruises made by the *Blake*, extending from the Windward Isles to the Eastern extremity of George's Shoal.

The naturalists on board the *Blake* were indeed fortunate to have as their associates officers whose industry, energy, and interest in the work never flagged, and who have now attained a proficiency in deep-sea work hardly deemed possible three years ago.

OUR BOOK SHELF

- i. *Elements of the Differential Calculus, with Examples and Applications: a Text-book.* By W. E. Byerly, Ph.D. (Boston: Ginn and Heath, 1879.)
- ii. *An Elementary Treatise on the Differential Calculus, founded on the Method of Rates or Fluxions.* By John Minot Rice and W. Woolsey Johnson. Revised Edition. (New York: J. Wiley and Sons, 1879.)

NEARLY five years have passed since we noticed a small pamphlet by the authors of (ii.), together with treatises on the calculus of Messrs. Buckingham (Chicago) and Clark (Cincinnati), and we then remarked upon the growing interest taken in mathematics by American students. A further outcome of the same interest is the two works now before us. As it is not to be expected that such works will take the place in our colleges of the text-books already in use amongst English mathematicians, seeing that, like our own books, these are greatly indebted to the classic works by Duhamel and Bertrand, we shall not dwell at any length upon their merits or demerits. Each work under notice is well done to the extent to which it goes, and will furnish the young student with a good introduction to the admittedly difficult subject of which it treats.

(i.) takes as its foundation the "rigorous use of the doctrine of limits," introducing easy integration at a very early stage, and has frequent recourse to geometrical and mechanical illustration with a view to making the subject of interest.

(ii.) is the elaboration, in an excellent work, of the paper (subsequently a pamphlet) referred to above, which was introduced to the notice of English readers by a *résumé* of its contents in the *Messenger of Mathematics* (August, 1874) by Mr. Glaisher.

Both books are effectively got up, and (ii.) is exceedingly well printed.

Spirit-Gravities with Tables. By Thomas Stevenson, M.D., &c. (London: John Van Voorst, 1880.)

DR. STEVENSON has published a series of Tables in which the specific gravity of alcohol from 100 to 0.05 per cent. is given for each difference of 0.05 per cent. The percentages of alcohol by weight and volume, and of proof spirit are contained in the Tables. The specific gravities are given to four places of decimals. The Tables are founded on those of Gilpin and Drinkwater, and for spirits of less specific gravity than 0.8250—*i.e.* containing more than 89.05 per cent. by weight of alcohol—on that of Fownes.

In an introduction the various Tables hitherto in use are discussed; and various useful data are noted. The Tables are clearly printed, and will be of much service to those who are required to analyse alcoholic liquids.

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 ensure the appearance even of communications containing interesting and novel facts.]

Supposed New Island in the Azores

A REPORT was current in the English and American newspapers some weeks ago that a new island had made its appearance among the Azores, similar in character to that which came up near the extreme western end of St. Michael's in the early part of the century. As I had determined to spend my long vacation among these islands, I was curious to witness a phenomenon so interesting and so rare as the birth of a new volcanic island. I learn that the report has its foundation in the occurrence of a landslip on the north-east end of St. George. A large portion (about 82 alqueiros in extent) of the land at Lapa, near the village marked Topo on Vidal's Chart, launched itself bodily into the sea—that is, in an almost unbroken mass, to a distance of about 300 metres from the mainland. There were a number of cattle grazing on the land at the time; these apparently were so little affected by the occurrence that when found they were feeding unconcernedly on "the new island," as if it had been associated with their whole existence. A little survey of the spot has been made, and the Director of the Public Works at Vellas, the chief town of St. George, was kind enough to give me a map of this, the most recent addition to—or perhaps one ought to say subtraction from—the Azores.

T. E. THORPE

Parthenogenesis in the Coleoptera

In the "concluding remarks" in his treatise on "Wahre Parthenogenesis" (1856), von Siebold says, "Es ist daher jetzt Aufgabe der Entomologen, nach weiteren Beispielen von Parthenogenesis in der Insektenwelt zu forschen"; and on the last page (237) of his "Beiträge zur Parthenogenesis," published fifteen years later, he expresses the conviction that many facts relating to this phenomenon are still to be discovered. The instances of true parthenogenesis discussed or referred to in these two works relate to insects of the orders Hymenoptera and Lepidoptera, and to some crustaceans. Including viviparous agamogenesis, however, as parthenogenetic, the orders Hemiptera and Diptera also furnish examples of this mode of reproduction; and for its occurrence in at least one genus of the Trichoptera I have the authority of Mr. R. McLachlan, F.R.S. The possibility of parthenogenetic reproduction in the Coleoptera rests only, so far as I am aware—see "Comparative Embryology," by F. M. Balfour, vol. i. p. 64—on the single instance communicated by me to this journal last year (*Nature*, vol. xx. p. 430), and this being so, it seemed desirable to make sure of this point by further research during the season now almost past. Accordingly I have this year kept a considerable number of females of *Gastrophysa raphani*, laying unimpregnated eggs, and with results which have not only confirmed the previous experience, but much extended it, as I am at present in possession of a living