

found in either of them. The largest medical specialist library in England, that of the Medical and Chirurgical Society, cannot claim to be more than half the size of the Washington Library, or to contain many books that are not to be found elsewhere; and it does not grow with all the rapidity of the New World.

For some time probably all seekers after the most difficult and most complete medical knowledge will have to turn to this "Index Catalogue," and will trust that Mr. Billings may be able to go on year after year putting forth his modest quarto of 1000 pages, until six or seven years may see him at the end of his great work.

A. T. MYERS

### OUR BOOK SHELF

*Mémoires de la Société des Sciences Physiques et Naturelles de Bordeaux.* 3e série, tome i. (Paris: Gauthier-Villars, 1885.)

WE have frequently had occasion to direct our readers' attention to the high-class memoirs which this energetic Society puts forth. The volume before us is one of a kind that we should like to see brought out by our own scientific Societies. Under the title "Niels-Henrik Abel, sa vie et son action scientifique," it contains a full and most valuable sketch, by Prof. C. A. Bjerknes, of Christiania, of the writings and life of one of the ablest and acutest mathematicians of modern times. That the account is a full one will be evident when we say that the work occupies 365 octavo pages: it is a translation in French from the original memoir, and is further enriched by a considerable appendix. The labour of seeing the present form of the work through the press has principally fallen upon M. Hoüel, to whom the author warmly expresses his thanks. Abel was born at Findö, Christiansand, on August 5, 1802, and died near Arendal on April 6, 1829, and was interred at Froland.

The main body of the work consists of fifteen chapters, and the appendix occupies thirteen chapters more. His works, originally edited by M. Holmboe, the professor under whom he studied, were published in 1839, and quite recently a new edition was referred to in these columns. We give two or three extracts which show the appreciation of his powers amongst his contemporaries, an appreciation which has rather increased than decreased since his death. Jacobi writes of a *deduction* Abel had drawn as being "elle est au-dessus de mes éloges, comme elle est au-dessus de mes travaux." Legendre says, "il me tarde beaucoup de voir les méthodes qui vous ont conduit à de si beaux résultats; je ne sais si je pourrais les comprendre, mais ce qu'il y a de sûr, c'est que je n'ai aucune idée des moyens que vous avez pu employer pour vaincre de pareilles difficultés. Quelle tête que celle d'un jeune Norvégien!" Gauss expresses similar views, and on hearing of Abel's death, wishes for particulars of the life "de cette tête éminemment distinguée." We could easily add other extracts from Prof. Bjerknes' admirable record of the distinguished Norwegian's life, which is a fitting companion to the before-cited edition of "the works," but forbear. Should any desire, with Gauss, to have his portrait, they will see here in the frontispiece the well-known, to some of us, lineaments.

*Solid Geometry.* By Percival Frost, D.Sc., F.R.S. Third Edition. (London: Macmillan and Co., 1886.)

It would have been superfluous to recommend the third edition of Dr. Frost's "Solid Geometry," even if the third edition had been merely a reprint of the second. The book has now taken its position alongside the very best mathematical treatises in use, and requires "no bush." What we have got to do with, however, is no

mere reprint: there is once again presented to us a notable increase of matter—much more than a cursory glance is likely to detect—and there has been considerable improvement generally. One change, greatly to the student's advantage, is the careful graduation of the problems at the end of each chapter, and the separation of them into groups. There is still a lack of references to original memoirs, and though, apparently, the author is conscious of it, he needs reminding that it is not sufficient merely to say that this or that is due to Cayley, Chasles, or any one else. Such incomplete statements serve only to give discoverers their dues; they do not assist the advanced and inquiring student.

We have pleasure in learning that an Appendix is about to be issued giving hints for the solution of the problems, but the pleasure is far more than counter-balanced by observing that the title-page bears no longer the words "Vol. I.," the inference being that Dr. Frost has followed the sad example of Thomson and Tait. There is no dearth of men willing and on the whole able enough to write mathematical text-books for beginners: those who could produce a volume to follow Frost's "Solid Geometry" are rare as white crows. When found—by press delegates—they should not only be made a note of, but coerced.

### 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.]

#### Flora of South Africa

No one, who ever spent much of the impressionable period of his youth at the Cape, that land of lowly plants with exquisite flowers,—but will be vividly interested in the masterly description of those plants' geographical regions of habitat, as given by Mr. Bolus, per your reviewer, "J. D. H.," on pp. 77-79 of your last week's issue.

But what can either one, or other, of those gentlemen mean by saying of "the Natal region" that it is "bounded on the east and south-east by the Atlantic"!

By the Indian Ocean if you like; and then you have a ready means of conveyance for those "Indian types of plants, both in genera and species" which the above-quoted authors say do abound along that eastern coast of South Africa,—but which the Atlantic could never have brought to it.

There is, however, a further local difference in the qualities of the two oceans, of such overwhelming importance to all vegetation, that I wonder no mention appears of it in a Cape botanical essay.

The Natal coast, for instance, on the east, is washed by a warm current from the equator, giving out so much steamy moisture that not only, as your article truly states, are there "the herbage- and bush- and tree-foliage greener, and the leafage larger" than elsewhere; but there, in that region of luxuriously fed, densely growing plants, does game abound; there do Kaffir tribes congregate and establish their kraals; and thereto do Dutch Boers emigrate out of the old, dried-up, southern colony, and found new republics; while therein have we also, every few years, to wage successive wars either with them, or with Zulus or Amakosi tribes of various power, until British lives have been sacrificed by thousands, and British money expended by millions.

But the west coast of South Africa, bless it, being washed by a cold current of the Atlantic coming from Antarctic seas, and giving out little or no vapour, even under a nearly vertical sun,—can hardly but be, even just as it is, an arid desert, where only a few starving Boschjesmen wander miserably up and down, existing perhaps on an occasional antelope, or roasted ants and stray locusts; and no one fights there for permanent possession of the ground.