

descriptions, and are difficult to find, especially as one is so unaccustomed to this method. Under each genus and species the geographical area is given, and in most cases pretty fully; but most of the numerous discoveries in tropical Australia since the publication of the "Genera Plantarum" have been overlooked: we allude to those already published in the "Flora Australiensis." Other little slips of this sort occur. For instance, there is a species of *Berberis* in Abyssinia.

Dr. Hooker has contributed largely to this volume, and the following botanists have assisted:—Dr. M. T. Masters, *Malvaceæ*, &c.; Mr. W. P. Hiern, *Sapindaceæ*, &c.; Prof. W. T. Dyer, *Dipterocarpeæ*, &c.; Prof. Lawson, *Ampelideæ*, &c.; Mr. A. W. Bennett, *Polygaleæ*; Dr. Anderson, *Guttifereæ*; and Dr. T. Thomson and Mr. M. P. Edgeworth were also associated with Dr. Hooker in the elaboration of certain orders. A comparison of the work of the different contributors brings out the defects of some rather strongly, but it would obviously be unfair to single them out, because they have not done quite so well as the best.

This is a good solid instalment towards a portable flora of India; and with so numerous a staff of botanists, well qualified for the task, we may confidently hope that the work will proceed with tolerable rapidity. True, the first part of this volume appeared in 1872, but we anticipate a better rate of progress for future volumes.

#### OUR BOOK SHELF

*Proceedings of the London Mathematical Society.* Vol. V. 150 pp. (London: Hodgson, Gough Square, 1875.)

FORMER volumes of these Proceedings have embraced the Transactions of two and even of three sessions; this contains the Transactions of one session only; hence the smallness of the volume. The longest paper in it is a valuable geometrical memoir, by Dr. Hirst, "On the correlation of two planes." When the points and right lines of two planes are so associated that to each point in one of the planes and to each line passing through that point, respectively correspond, in the other plane, *one* line and *one* point in that line, then a correlation is said to be established between the two planes. The author indicates in a note how his results are also all applicable to the case of two homographic planes.

Prof. Cayley contributes papers on Steiner's Surface and on certain constructions for bicircular quartics. Lord Rayleigh has a note "On the numerical calculation of the roots of fluctuating functions." Mr. J. W. L. Glaisher writes "On the transformation of continued products into continued fractions." Mr. C. J. Monro has a note "On the inversion of Bernoulli's theorem in probabilities." Mr. Samuel Roberts also contributes a note "On the expression of the length of the arc of a Cartesian by elliptic functions," and "The parallel surfaces of developables and curves of double curvature;" Mr. Spottiswoode has a paper "On the contact of quartics with other surfaces;" and Mr. H. M. Taylor "On inversion with special reference to the inversion of an anchor-ring or torus." Interesting papers of a more elementary character are contributed by Mr. J. Griffiths "On the Cartesian equation of the circle which cuts three given circles at given angles," and "On a remarkable relation between the difference of two Fagnanian arcs of an ellipse of eccentricity  $e$ , and that of two corresponding arcs of a hyperbola of eccentricity  $\frac{1}{e}$ ;" and by Prof. Wolstenholme "On another system of Poristic Equations."

So far we have cited those memoirs only which treat of pure mathematics. There are, besides, papers by Mr. Röhrs, "On spherical and cylindrical motion in viscous fluid;" by Mr. Routh, "On stability of a dynamical system with two independent motions," and "On small oscillations to any degree of approximation;" by Prof. Clifford, "On graphic representation of the harmonic components of a periodic motion;" by Prof. Crofton, "A method of treating the kinematical question of the most general displacement of a solid in space;" by Mr. Merrifield, "On the determination of the form of the dome of uniform stress."

Here is, as usual, sufficient variety for differing tastes dished up by the most advanced mathematicians in this country; other names also occur as contributors of communications, though their communications do not appear in this volume, notably those of Professors Sylvester, H. J. S. Smith, and J. Clerk-Maxwell. Further, a communication by Mr. A. J. Ellis, we are informed, took the shape of a separate pamphlet, entitled "Algebra identified with Geometry." This pamphlet arose out of Mr. Ellis's connection with the Association for the Improvement of Geometrical Teaching, and copies were kindly presented by him to the members of the two societies. It is procurable at the above-named publishers of the Mathematical Society's Proceedings.

*Fiji: our New Province in the South Seas.* By J. H. De Ricci, F.R.G.S. With two Maps. (London: Stanford, 1875.)

MR. DE RICCI'S book has the appearance of having been put together hastily, to catch the mild and short-lived excitement connected with the annexation of Fiji. A large proportion of it consists of extracts from other works thrown together without much attempt at systematic arrangement; the result is a somewhat undigested mass of facts and figures about Fiji. Still, the book does contain a great deal of useful and interesting information, and will give its readers a very fair idea of the history and the physical and social condition of our most recent annexation. The information given may be regarded as trustworthy, as it is taken from the works of Wilkes and Seemann, and from various official documents. Appended are lists of the native names of timber-trees and of the fauna; but very much more valuable is the long systematic list of all the Fijian plants at present known, compiled partly from previous writers and partly from the author's own observations. The two maps add to the value of the work—one of the Fiji Archipelago, and the other showing the position of the colony in reference to America, Asia, and Australia.

#### 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.]

##### Geology in America

I AM somewhat chagrined to find that I appear to you (vol. xi. p. 381) to say that the Geological Survey of Great Britain is especially to blame for the diminution of interest in geology in the country that has done the most for its advancement. My remarks were taken down by a reporter, and I have not seen them in print. The point I sought to make was to the effect that in all matters relating to geology, Massachusetts could not do better than to follow the lead of the British Survey. The only question to be considered was whether it was not open to criticism from an educational point of view. On this matter I expressed no individual opinion, but only restated doubts that I had heard expressed by more than one of your own masters in the science. I feel that geological science owes so much to your noble Survey, that none of its students should subject it to hasty criticism. If it is to have its methods questioned, it should be done by some one far better acquainted with its ways than any