nified, are appended to the text. The author remarks that the first indication of since restored species, *e.g.*, of the *Diprotodon*, as a large extinct Marsupial, was a portion of a tooth, and corresponding accessions of fossil remains may be expected to lead to a like reconstruction of the present animal. He is indebted to E. P. Ramsay, Esq., F.L.S., for casts of the first found specimens of the teeth in question to which the transmitter had appended the name *Sceparnodon;* subsequently the author received, through the kindness of C. H. Hartman, Esq., of Toonromba, Queensland, a large portion of the tooth itself.

III. "Evidence of a Large Extinct Monotreme (*Echidna Ramsayi*, Ow.) from the Wellington Breccia Cave, New South Wales." By Professor OWEN, C.B., F.R.S. Received November 3, 1883.

(Abstract.)

In this communication the author gives a description of a fossil humerus from the breccia cave of Wellington Valley, which repeats the characters of that bone in the existing monotrematous genus *Echidna* more closely than those of the same bone in any other known kind of mammal. The fossil, however, greatly exceeds in size that of the existing Australian species, *Echidna hystrix*, Cuv. The existence of, at least, two other kinds lately discovered living in New Guinea has been made known in memoirs by Professor Gervais and Mr. E. P. Ramsay, F.L.S.; these occupy, in respect of size, the interval between them and the Australian *Ech. hystrix*, but the subject of the present paper makes known the largest Monotreme hitherto discovered. Figures of the fossil in question, and of the corresponding bone of the smaller existing Australian kind, accompany the text. The fossil formed part of the series of remains obtained from the cave above cited, and was with them submitted to the author, who proposes to indicate the present acquisition by the name *Echidna Ramsayi*.

IV. "Correction to a paper 'On the Determination of Verdet's Constant,' published in the 'Phil. Trans.,' 1877." By J. E. H. GORDON, M.S.T.E. Communicated by Professor STOKES, Sec. R.S. Received October 5, 1883.

(Abstract.)

In revising my "Treatise on Electricity" for the second edition, in July, 1883, I noticed a discrepancy between the value of Verdet's constant obtained by myself and that deduced from M. H.

Becquerel's comparative experiments (see "Electricity," first edition, vol. ii, p. 235).

This led me to revise the calculations given in the "Phil. Trans.," 1877, and I see that in the final formula in that paper 2R has been used instead of R. This makes the value of the constant there given double its true value, which is—

$$\omega = 1{\cdot}52381 \times 10^{-5}.$$

This correction removes the discrepancy between my result and Becquerel's.

V. "Note on the Irregularities in Magnetic Inclination on the West Coast of Scotland." By T. E. THORPE, F.R.S., and A. W. RÜCKER, M.A. Received October 20, 1883.

In the Report of the results of the Magnetic Survey of Scotland, undertaken at the request of the British Association by the late Mr. Welsh during the years 1857 and 1858, it is stated by Professor Balfour Stewart (by whom the observations were reduced and the report drawn up) that the values of all the elements as determined in and adjacent to the Island of Mull were apparently largely affected by local attraction, and from a comparison of the various observations Professor Stewart was led to place the centre of the disturbance a little to the south of the Mull stations, and at a considerable depth below the surface. The effect of this local attraction was most apparent in the determination of the dip, which at Tobermory was upwards of 57′, and at Glenmorven, on the other side of the Sound, was 14′ in excess of the probable normal value, that is, the value unaffected by local disturbance and dependent merely on geographical position, as deduced by combining together all the other observations for Scotland, in the manner adopted by Sir Edward Sabine in discussing the observations of the previous Survey of 1836.

Dr. Stewart's localisation of the centre of disturbance was based partly on a consideration of the abnormal values exhibited by the observations made at the two stations on the Sound of Mull, and partly on certain irregularities manifested by the determinations taken on Islay and in Skye. So far as the Mull observations themselves were concerned, the clue as to the exact locality of the area of disturbance was of the very slenderest. Mr. Welsh appears to have made only a single observation of the dip at Tobermory; and although observations were made with two needles at Glenmorven, the divergence between the resultant values happens to be greater than is exhibited by any other pair of dip observations throughout the survey. Nevertheless, as we shall show, we are able to confirm