Sixth Meeting, May 11*th*, 1900.

R. F. Muirhead, Esq., M.A., B.Sc., President, in the Chair.

Note on a Theorem in Continued Fractions.

By Prof. Steggall.

Note on the Fundamental Inequality Theorems connected with e^x and x^m.

By Prof. George A. Gibson.

The subject of this note is that dealt with in Mr Tweedie's paper in the *Proceedings*, vol. XVII., 33–37, and my only reason for bringing it before the Society is to call attention to a slightly different method of presenting the same order of ideas. The method is that adopted by Peano, *Lezioni di Analisi Infinitesimale*, vol. I., §23, but as the book is not readily accessible to teachers, there may be some interest in having the method reproduced in our *Proceedings*. I add one or two remarks.

Peano starts, as Mr Tweedie does, from the generalised arithmetico-geometrical mean, namely, that if a, b, m, n be any positive quantities and a not equal to b,

$$a^m b^n < \left(\frac{ma+nb}{m+n}\right)^{m+n}.$$

His procedure is as follows :—Let $a = 1 + 1/m$, $b = 1$ and we get

$$\left(1+\frac{1}{m}\right)^m < \left(1+\frac{1}{m+n}\right)^{m+n} \qquad (1)$$

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