pressed numerically by such a multiple of this integral, so taken, as to give 1 for its value when r is infinite: which gives

$$H = 1 - E(-kr^2)\text{; and therefore } M = E(-kr^2).$$

Now, when $r = a$, the radius of that circle within which just half the total number of arrows strike; the probabilities of hitting and missing that circle are equal: so that H and M are in that case each $= \frac{1}{2}$. We have, consequently,

$$E(-ka^2) = \tfrac{1}{2},$$

and eliminating k, we obtain

$$\text{Log. } M = \frac{r^2}{a^2} \cdot \log. (\tfrac{1}{2})\text{;}$$

or,

$$M = \left(\frac{1}{2}\right)^{\frac{r^2}{a^2}}$$

COLLINGWOOD, *June* 8, 1866.

NOTANDUM.

The experiment suggested in § 9 of Lecture XIII. has been made by Herr G. QUINCKE, with complete success. A full account of it will be found in Poggendorff's *Annalen*, vol. cxxviii. pp. 177, *et seq.*

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