its angular velocity around this axis we have $\sin^2\theta\cdot\dot{\phi} = c/e$. If each line of force carried a unit mass at unit distance from the origin the angular momentum of the mass would thus be the same for all the lines of force.

An attempt made previously* to obtain the lines of force when any system of charges or doublets is emitted from a moving pole is vitiated by an unfortunate oversight. It appears that Z cannot be made equal to unity as was assumed. The differential equations to be solved are consequently of type

$$g(\sigma, \bar{\sigma})\frac{d\sigma}{d\tau} = f'(\bar{\sigma}, \tau), \qquad g(\sigma, \bar{\sigma})\frac{d\bar{\sigma}}{d\tau} = f'(\sigma, \tau),$$

where g is a function† whose form is independent of the emitted system and consequently independent of the form of f'.

California Institute of Technology,
October, 1920.

SHORTER NOTICES.

Table de Charactēristiques de Base 30030, *donnant en un seul coup d'oeil les facteurs premiers des nombres premiers avec* 30030 *et inférieurs à* 901,800,900. By Ernest Lebon. Tome I, Premier Fascicule. Paris, Gauthier-Villars, 1920.

To one who has spent eight years of his life in making a factor-table for the first ten millions the plan to extend such a table to the limit 901,800,900 seems like a rather serious undertaking. If such a table were constructed according to the plan devised by Burckhardt and employed by Dase and Glaisher the number of pages would exceed one hundred thousand, and with five hundred pages to the volume would fill some two hundred volumes! If, as in the tables published by the Carnegie Institute, the multiples of 2, 3, 5 and 7 were omitted, and the pages somewhat enlarged to take care of the large divisors certain to appear, the number of pages would be

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* *Proc. London Math. Soc.*, (2), vol. 18 (1919), p. 123, *Phil. Mag.*, vol. 34, Nov., 1917, p. 419. In the notation used in the last paper the equations should be

$$g(\alpha, \beta)\frac{d\alpha}{d\tau} = f(\beta, \tau), \qquad g(\alpha, \beta)\frac{d\beta}{d\tau} = f(\alpha, \tau).$$

† In the case of a stationary pole, $g = (1 + \sigma\bar{\sigma})^{-2}$.