## AE : EB = DF : FC = AD : BC

then the direction of the line EF shall bisect the angle between the directions of BC, AD.

This extension of Euclid's VI. 3 follows immediately from the proposition that if AE: EB = DF: FC, then all such lines as EF are parallel to one plane, namely, the plane parallel to BC, AD; and that they each cut similar lines drawn with reference to BC, AD.

Dr Mackay has kindly supplied to me the following references bearing on the subject:—Legendre's Geometry, Book V., Prop. 16, (Brewster's Edition, 1824, p. 119; Hutton's Course of Mathematics, 12th edition, 1843, Vol. II., p. 224; The Mathematician, Vol. III., Supplementary Number, pp. 36-38.

Note on a possible definition of a plane.

By Professor J. E. A. STEGGALL.