CDA, DAB, ABC; then if P be at G_1, the forces PB, PC, PD are in equilibrium, and the resultant of the system is G_1A, and is equal to $4G_1G$. Hence the lines AG_1, BG_2, CG_3, DG_4 are concurrent at G, and are divided at G in the ratio 1 : 3. The general proposition is—If each of n points in space be joined to the centre of mean position of the other $n-1$ points, these lines shall be concurrent at the centre of mean position of the n points, and shall be divided in the ratio $1 : n-1$.

5. If P be at H, the middle point of the edge BC of the tetrahedron, then HB, HC are in equilibrium, and the resultant of the system is the resultant of HA, HD, that is, 2HF, where F is the middle point of the opposite edge AD. But the resultant is 4HG, therefore G bisects the line HF. Hence the lines joining the middle points of opposite edges of a tetrahedron are concurrent and bisect each other.

Seventh Meeting, May 14th, 1886.

Dr Ferguson, F.R.S.E., President, in the Chair.

Note on Euclid II. 11.

By the Right Hon. Hugh C. E. Childers.

[The following method of dividing a straight line in medial section was communicated to Mr Munn of the Edinburgh High School, by the Right Hon. Hugh C. E. Childers in January last.]

Let AB be the line. (Fig 56).

Draw $AC = \frac{1}{2}AB$, and at right angles to it. Join CB. Bisect the angle ACB with CD, cutting AB at D. Draw DE at right angles to CB. Then the triangles CAD, CED are equal, and $AD = DE$. Draw a circle with DA and DE radii, cutting AB at F.

Then since DEC is a right angle, BC is a tangent to the circle, and triangles BCA, BDE are similar.

But $BA = 2CA$; therefore $BE = 2DE = AF$.

Then $BA \cdot BF = BE^2$,

$= AF^2$,

and F is the required point of division.

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