§ 7. The following proof, by means of co-ordinates, of the general theorem of (§ 3) is so simple, that it may be worth while giving it here.

Put (fig. 38) $\mathrm{AL:LB} = \mathrm{DM:MC} = \lambda:\mu$;

$\mathrm{AR:RD} = \mathrm{LP:PM} = \mathrm{BS:SC} = p:q$.

Let the co-ordinates of R, P, Q, be (ξ_1,η_1), (ξ_2,η_2), (ξ_3,η_3); the co-ordinates of A be (x_1,y_1), etc.

Then $\xi_1 = (qx_1 + px_4)/(p+q)$.

$$\xi_2 = \{p(\lambda x_3 + \mu x_4)/(\lambda+\mu) + q(\lambda x_2 + \mu x_1)/(\lambda+\mu)\}/(v+q)$$
$$= \{p(\lambda x_3 + \mu x_4) + q(\lambda x_2 + \mu x_1)\}/(\lambda+\mu)(p+q).$$
$$\xi_3 = (px_3 + qx_2)/(p+q).$$

Now we may easily show that if we put

$$\mathrm{P} = \{p(x_4 - x_3) + q(x_1 - x_2)\}/(\lambda+\mu)(p+q),$$
$$\mathrm{Q} = \{p(y_4 - y_3) + q(y_1 - y_2)\}/(\lambda+\mu)(p+q),$$

then $\xi_2 - \xi_3 = \mu\mathrm{P}$; $\xi_3 - \xi_1 = -(\lambda+\mu)\mathrm{P}$; $\xi_1 - \xi_2 = \lambda\mathrm{P}$.

Hence
$$\eta_1(\xi_2 - \xi_3) + \eta_2(\xi_3 - \xi_1) + \eta_3(\xi_1 - \xi_2)$$
$$= \eta_1\mu\mathrm{P} - \eta_2(\lambda+\mu)\mathrm{P} + \eta_3\lambda\mathrm{P}$$
$$= \mathrm{P}\{\lambda(\eta_3 - \eta_2) + \mu(\eta_1 - \eta_2)\}$$
$$= \mathrm{P}\{\lambda(-\mu\mathrm{Q}) + \mu(\lambda\mathrm{Q})\}$$
$$= \mathrm{PQ}(-\lambda\mu + \lambda\mu) = 0.$$

Hence R, P and S are collinear.

An Apparatus of Professor Tait's was exhibited which gives the same curve as a glissette, either of a hyperbola or an ellipse.

Fourth Meeting, 28th February 1890.

R. E. ALLARDICE, Esq., M.A., Vice-President, in the Chair.

On the Moduluses of Elasticity of an Elastic Solid according to Boscovich's Theory.

By Sir WILLIAM THOMSON.

The substance of this paper will be found in the *Proceedings of the Royal Society of Edinburgh*, Vol. xvi., pp. 693–724; and Thomson's *Mathematical and Physical Papers*, Vol. iii., Art. xcvii., pp. 395–498.