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*Seventh Meeting, May 8, 1891.*

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R. E. ALLARDICE, Esq., M.A., F.R.S.E., President, in the Chair.

On the solitary wave.

By JOHN M'COWAN, M.A., B.Sc.

[This paper is printed in the *Philosophical Magazine*, July 1891.]

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On some applications of the pedal line of a triangle.

By Professor A. H. ANGLIN.

I. Taking the two following known properties of the pedal line of a triangle, viz. :

I. *The locus of a point, such that the feet of the perpendiculars from it on the sides of a triangle are collinear, is the circum-circle of the triangle ;*

II. *The pedal line bisects the distance between the orthocentre and the corresponding point in the circumference of the circum-circle ;*

we may apply them to establish the following known theorems :—

(1.) *The circum-circle of the triangle formed by three tangents to a parabola passes through the focus.*

For, the feet of the perpendiculars from the focus on the tangents lie on a straight line, viz., the tangent at the vertex ; hence by (I.) the focus is on the circumference of the circum-circle.

(2.) *The orthocentre of the triangle is on the directrix.*

For, if O be the orthocentre, by (II.) SO is bisected by the pedal line corresponding to S, that is, by the tangent at the vertex ; hence, if OX be perpendicular to the axis, SA = AX, and therefore OX is the directrix.