will be the vertices of a polygon with respect to which and $ABCDEF$ . . . there is an indefinite number of in- and circumscribed polygons.

If $ABCDEF$ . . . be any *regular* polygon of an even number of sides and if AC intersect FB and BD in a, b respectively, CE intersect BD and DF in c, d respectively, etc., then by the properties of the regular polygon there will be closure for the midpoint of AB (and so for all points of AB) if AB be projected on BC, BC on CD, CD on DE, etc., from the poles a, b, c, etc., respectively. Also there will be closure for the midpoint of AB and so for all points of AB if AB be projected on BC, BC on CD, etc., from the midpoints of AC, BD, CE, etc., respectively. If $ABC \cdots$ have an *odd* number of sides and the projections be made from poles corresponding to those indicated in these two theorems, there will be closure for all points if the projection be made twice round the polygon.

If $ABCDE$ be any pentagon and if the points (AC, BD), (BD, CE), (DA, EC), (BE, DA), (AC, EB) be named e, a, b, c, d respectively, then if $ABCDE$ and $abcde$ be regarded as two simple pentagons there will be a poristic system of pentagons if ab be projected on bc, bc on cd, cd on de, de on ea, ea on ab from the vertices B, C, D, E, A respectively. This may be proved by testing for closure when the vertices of $ABCDE$ or of $abcde$ are the points projected.

[Professor Morley has pointed out to me that the simple pentagon $ACEBD$ and any one of the variable pentagons constitute the ten-point, ten-line configuration of Desargues's two perspective triangles.]

VASSAR COLLEGE,
October, 1906.

HERMITE'S WORKS.

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I.

ON January 14, 1901, Charles Hermite passed away. A contemporary and zealous disciple of Gauss, Jacobi, and Dirichlet, the friend and generous rival of Cayley, Sylvester, and Brioschi,