8. The second paper by Professor Gutzmer consists of a short report on some investigations and results related to a previous paper by him under the title: "Theory of adjoined differential equations," Halle, 1896.

The next meeting of the Vereinigung will be held at Meran, in the Tyrol, in September, 1905, under the presidency of Professor F. Klein.

R. E. WILSON.

GÖTTINGEN, GERMANY,
    November, 1904.

THE CONSTRUCTION OF CONICS UNDER GIVEN CONDITIONS.

BY PROFESSOR M. W. HASKELL.

UNDER the above title are grouped a few notes on special aspects of the subject, with no pretense at an exhaustive treatment. While certain of the results are not new, it is believed that the method by which they are derived will be of some interest. Homogeneous coördinates are used exclusively; following Casey (Analytical Geometry, page 70), a quadrangle or quadrilateral whose diagonal triangle is the triangle of reference is designated as a "standard" quadrangle or quadrilateral. The coördinates of the vertices of a standard quadrangle, or of the sides of a standard quadrilateral, are then $\pm \kappa_1 : \pm \kappa_2 : \pm \kappa_3$, and they may be projected into $\pm 1 : \pm 1 : \pm 1$ if desired. It is to be noticed that the complete quadrangle (quadrilateral) is fully determined and can be easily constructed, when the diagonal triangle and any one vertex (side) are given.

§ 1. *Conics Defined by Five Points or by Five Tangents.*

THEOREM I. *The eight vertices of two standard quadrangles lie on one and the same conic.*

For, let the vertices be respectively $\pm \kappa_1 : \pm \kappa_2 : \pm \kappa_3$ and $\pm \lambda_1 : \pm \lambda_2 : \pm \lambda_3$; it is clear that they all lie on the conic whose equation is