

HOW SHOULD THE COLLEGE TEACH ANALYTIC
GEOMETRY?*

BY PROFESSOR HENRY S. WHITE.

IN most American colleges, analytic geometry is an elective study. This fact, and the underlying causes of this fact, explain the lack of uniformity in content or method of teaching this subject in different institutions. Of many widely divergent types of courses offered, a few are likely to survive, each because it is best fitted for some one purpose. It is here my purpose to advocate for the college of liberal arts a course that shall draw more largely from projective geometry than do most of our recent college text-books. This involves a restriction of the tendency, now quite prevalent, to devote much attention at the outset to miscellaneous graphs of purely statistical nature or of physical significance. As to the subject matter used in a first semester, one may formulate the question: Shall we teach in one semester a few facts about a wide variety of curves, or a wide variety of propositions about conics?

Of these alternatives the latter is to be preferred, for the educational value of a subject is found less in its extension than in its intension; less in the multiplicity of its parts than in their unification through a few fundamental or climactic principles. Some teachers advocate the study of a wider variety of curves, either for the sake of correlation with physical sciences, or in order to emphasize what they term the analytic method. As to the first, there is a very evident danger of dissipating the student's energy; while to the second it may be replied that there is no one general method which can be taught, but many particular and ingenious methods for special problems, whose resemblances may be understood only when the problems have been mastered. No one can lay down rules *a priori* which would enable the student to rediscover the theorems now known concerning conics—if these were once lost. Were there such a single well-defined method or art of creating geometry, should we still be waiting for the completion of the theory of plane quartics, or for even an outline of the theory of quintics? It is rather the art of asking questions

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