

## PREFACE.

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THE matter of the present work has, with some variations, been in manuscript for a number of years, and has formed the subject of an annual course of lectures to mathematical students by whom the subject has been well received as one of the most interesting in the earlier part of a mathematical course.

I have been induced to present the work to the public, partly, by receiving from a number of Educationists inquiries as to what work on Solid Geometry I would recommend as a sequel to my Plane Geometry, and partly, from the high estimate that I have formed of the value of the study of synthetic solid geometry as a means of mental discipline.

To me it seems to exercise not only the purely intellectual powers in the development of its theorems, but also the imagination in the mental building-up of the necessary spatial figures, and the eye and the hand in their representations.

In this work the subject is carried somewhat farther than is customary in those works in which the subject of solid geometry is appended to that of plane geometry,