but the extensions thus made are fairly within the scope of an elementary work, and are highly interesting and important in themselves as forming valuable aids to the right understanding of the more transcendental methods.

It appears to me that it is a prevalent custom to lay too little stress on synthetic methods as soon as plane geometry is passed, and to hurry the student too rapidly into the analytic methods. If mathematical knowledge is all that is required, this may possibly be an advantageous course; but if mental culture is, as it should be, the chief end in a university education, this customary usage is not the best one.

I have found it convenient to divide the work into four parts, each of which is further divided into sections.

The first part deals with a consideration of the descriptive properties of lines and planes in space, of the polyhedra, and of the cone, the cylinder, and the sphere.

Here I would feel like apologising for the introduction of a new term, were it not that I believe that its introduction will be fully justified by a careful perusal of the work.

Legendre, in his notes to his geometry, proposed to use the word 'corner' (coin) for the figure formed by the meeting of two planes, and he considered that the different polyhedral angles should receive special names as being geometrical figures of different species. Without