

## INTRODUCTORY MODERN GEOMETRY.

*Introductory Modern Geometry of Point, Ray, and Circle.*

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IN reviewing a book, one of the canons of fair criticism is to regard its adaptation to the readers for whom the author himself designs it; but as a preliminary to this notice, we must object to the selection implied in the preface, where Professor Smith describes his book as intended "to present in simple and intelligible form a body of geometric doctrine acquaintance with which may fairly be demanded of candidates for the Freshman class," and then points out that *one year's study of geometry* is about as much as can be expected in schools. Our own conviction is that geometry may with great advantage be taught to children in their early school days. The simplest kind of geometry, of course; with few formal proofs, and depending more on the teacher than the text-book. But even when this early introduction has been omitted, the subject seems to be one that may be presented in formal guise to the average child of twelve or thirteen. It relates to that with which he is already practically familiar, illustrations may be drawn from his every-day experience, his unconscious perceptions of space relations may be appealed to and formulated; and thus it presents itself as a valuable discipline by which his reasoning faculties may be developed, and his vague disconnected perceptions organized, without burdening him with a mass of new and possibly uninteresting facts.

But just because geometry is so eminently fitted for the youthful mind it should be *at first* presented in such form as to be in accord with the general views of laymen, when these are not in direct opposition to the truth. It may well be that the ideas of modern geometry on such questions as that of the nature of space ought to be explained earlier and to more students than is now done; but if we accept W. K. Clifford's rule, "before teaching any doctrine, wait until the nature of the evidence for it can be understood," such discussions will not be put in the forefront of our geometrical teaching. They will be more easily and profitably treated when they can be founded on knowledge derived from a study of Euclidean space. "There is no time of reading a book better than when you need it, and when you are on the point of finding it out yourself if you were able," says J. Clerk Maxwell; why then should we thrust upon the student "the