SOLID OR SPATIAL GEOMETRY.

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Cor. 2. A line not coincident with a given plane meets the plane at only one point.

2. A plane is not necessarily limited in extent; or, in other words, a plane extends to infinity in all its directions. For the plane must be coextensive with every coincident line.

Every plane thus theoretically divides all space into two parts, one lying upon each side of the plane. The use of planes thus considered is common in spherical astronomy.

3. In plane geometry the geometric figure is drawn upon the plane of the paper, which properly represents the plane upon which the figure is supposed to lie. In spatial geometry, however, we have only one plane, that of the paper, to stand for and represent all the planes which may be involved in any spatial figure. This is an unavoidable source of confusion to beginners, as the pictured figures in spatial geometry are not representations of the real figures in the same sense as in plane geometry.

Thus equal line-segments and equal angles in a spatial figure will not, in general, appear as equal segments or equal angles in the pictured representation. So, also, squares and circles in space will not, in general, appear as squares and circles on our single available plane, that of the paper. Properly constructed models simplify matters to a very great extent, and should be employed whenever available. The construction of proper models is, however, always difficult, and often impracticable, and for several reasons they cannot serve all the purposes of a diagram. And hence beginners should ac-