Cor. When $PA = PB$, $OA = OB$. Therefore, if PA is of constant length and variable in position, the foot A describes a circle having O as centre and OA as radius. The generation of this circle from a fixed point, P, by a line segment, PA, of constant length, is similar to that of the circle in plane geometry (P. Art. 92), except that in the present case the fixed point is not in the plane of the circle.

Def. 1. The circle described on U with the vector PA, and from the fixed point P, has a relation to the cone, to be considered hereafter, and we shall accordingly call it a *cone circle* to the *vertex P*.

Evidently any circle may be considered as a cone circle, and when so considered, it has an indefinite number of vertices, all lying upon the line which passes through its centre and is normal to its plane.

Def. 2. The distance of a point from a plane is the length of normal intercepted between the point and the plane.

11. *Def.* 1. The *projection* of a point on a plane is the foot of the normal from the point to the plane, and the projection of a line-segment on a plane is the join of the projections of its end-points upon the plane.

It follows, then, that the projection of a line upon a plane which it meets is the planar line which passes through the point where the given line meets the plane, and through the foot of the normal, drawn from any point on the given line to the plane.

Def. 2. The angle between a given line and its projection upon a plane is taken to be the angle between the given line and the plane.