

## GRAPHIC SOLUTIONS WITH THE STEREONET

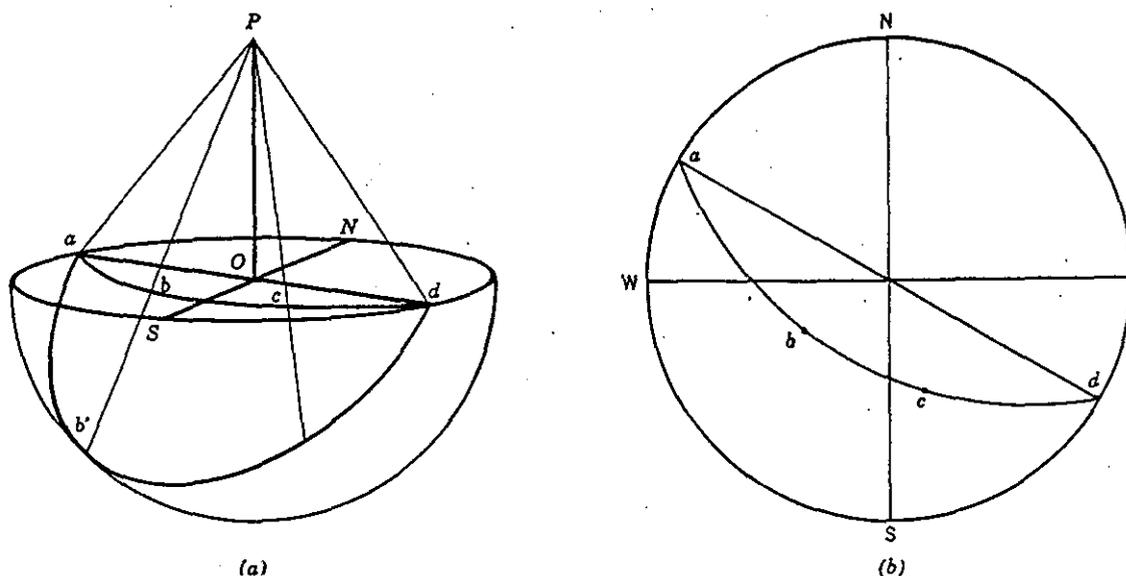


FIGURE 11.2 Stereographic projection of an inclined plane. (a) Projection to the horizontal equatorial plane. (b) Corresponding stereogram. (After Phillips, 1971.)

practical use this *spherical projection* must be represented in two dimensions. World maps are familiar examples. For present purposes, the most useful way is to project all points on the lower part of the great circle to the horizontal plane by joining them to the zenithal point  $P$  (Fig. 11.2a), yielding arc  $abcd$ . Similarly, a structural line through point  $O$  will intersect the sphere as a point, and this point is projected to the horizontal plane also using  $P$ ; for example, point  $b$  is the

projection of line  $Ob'$  (Fig. 11.2a). The resulting representation consists of lines and points plotted inside the horizontal great circle. This limiting circle is termed the *primitive*. This is the method of *stereographic projection*, and the figure drawn on this horizontal diametral plane, together with the cardinal compass directions is a *stereogram* (Fig. 11.2b).

One of the more important properties of the stereographic projection is that a great

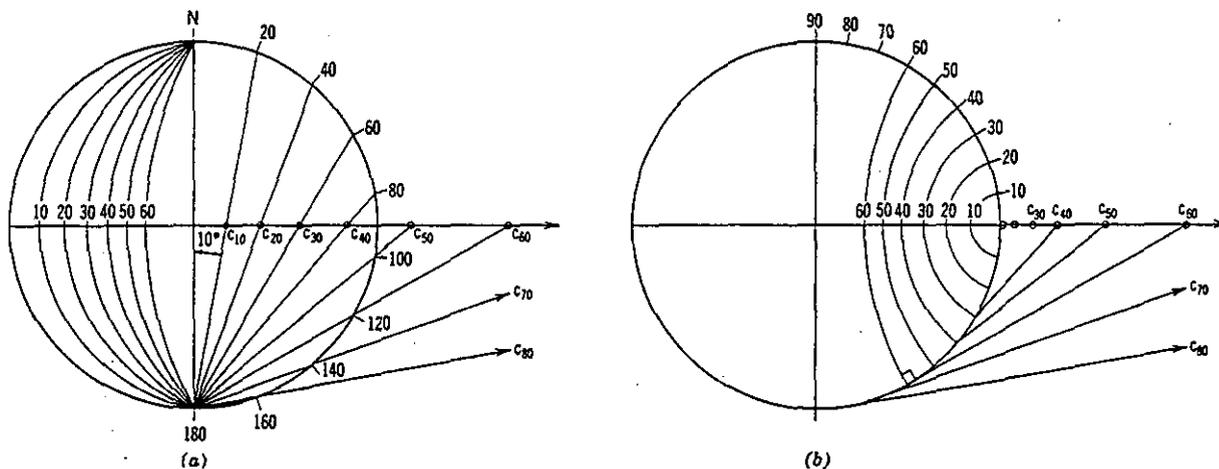


FIGURE 11.3 Construction of the stereonet. (a) Centers of the great circle arcs at the intersection of the east-west line and the various chords. (b) Centers of the small circle arcs at the intersection of the north-south line and the tangents to the primitive.