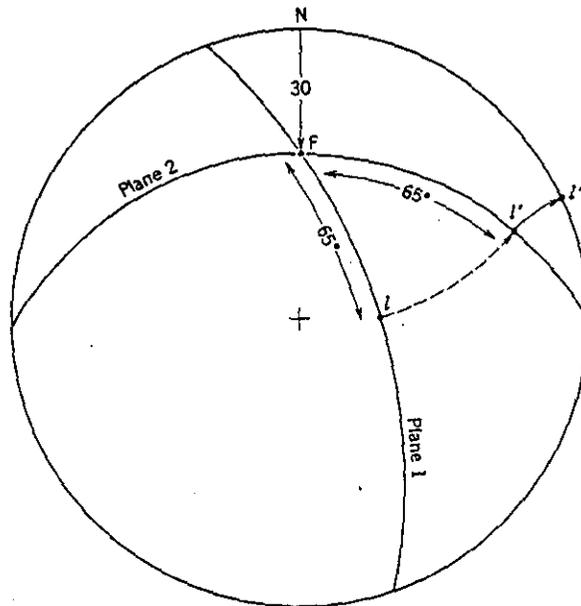**FIGURE 11.16** Unfolding about an inclined axis.

EXERCISES

1. Construct a stereogram 15 cm in diameter of the 45° great and small circles graphically or with the aid of equations (11.1) and (11.2). Compare your results with the printed Wulff net.

2. Repeat exercises 2 and 3 of Chapter 1. Compare the stereographic and orthographic projection methods for accuracy and speed.

3. Determine the plunge of the line of intersection and the pitch of this line in one of the planes for each of the following pairs of planes:

   a. N 60 W, 46 S; N 15 E, 20 E.   (*Ans.:* Plunge = 17, S 43 E)
   b. N 25 E, 33 W; N 36 W, 70 SW.   (*Ans.:* Pitch in Plane 2 = 35°N)
   c. N 65 W, 50 N; N 25 E, 90 (vertical).

4. A plane contains two linear structures: Line 1 (30, N 40 W) and Line 2 (20, N 10 E). What is the attitude of the plane, and what is the angle between the two lines measured in the plane? (*Ans.:* Plane = N 48 E, 30 NW)

5. The beds below an angular unconformity have an attitude of N 30 W, 40 W. The sequence above the unconformity is tilted (N 20 E, 30 E). What was the attitude of the lower beds before the tilting of the younger beds occurred?

6. An anticlinal fold axis plunges 24, N 40 E. On the east limb, where beds have an attitude of N 5 W, 32 E, the crest line of current ripple marks pitches 70° N in the plane of the bedding. What was the pretilt orientation? Compare the result with that based on the assumption that the tilted lineation adequately represents the original direction. Comment.

7. A fold plunges 50, N 25 E. At a point on the overturned limb, a lineation is found to trend due east, and the strike of the plane containing the lineation is due