(Fig. 5(b)). With this net, constructed from the formula $r = \sqrt{2}\ R \sin \alpha/2$, a unit area at any location on the projection corresponds to a unit area on the reference sphere, although somewhat distorted in shape. Equal subdivisions of the total area (e.g., 1 per cent area) can be chosen to illustrate concentrations of points projected onto the net from anywhere on the sphere.

The manipulation of the equal-area net in plotting lines or planes is identical to that previously described for the equal-angle net. Similarly, the equal-area net can be used to measure the angular relations between lines and planes. Moreover, rotation of data is more satisfactorily performed because the meridians are much more nearly equally spaced than on the equal-angle net. For these reasons the equal-area net is used almost exclusively in petrofabric work.

Petrofabric Diagrams

Petrofabric diagrams are the trademark of fabric studies. They illustrate as no other type of diagram can the three-dimensional orientations of fabric elements in a complete and concise manner. By convention these orientations are shown with respect to a specific plane of reference (the plane of the diagram) in lower hemisphere equal-area projection. Diagrams used in this review are of three types, as follows: (a) point or scatter diagrams (Fig. 6(a)) contain data from a number of measurements of a given fabric element, (b) contoured diagrams (Fig. 6(b)) show the same type of information as (a) except that the orientation pattern is emphasized by density contouring, and (c) stereograms (Fig. 6(c)) show the angular relations among relatively few lines and/or planes.

A partial petrofabric diagram illustrates data from one given field of observation or only part of the available data. Composite diagrams contain data from more than one field of observation on the same sample, e.g., elements measured in three mutually perpendicular thin sections cut from the same sample. Data from two of the sections are rotated into the plane of the third, or data from all three are rotated into some fourth plane of reference. Synoptic diagrams are summary in nature and show fabric data for a number of different

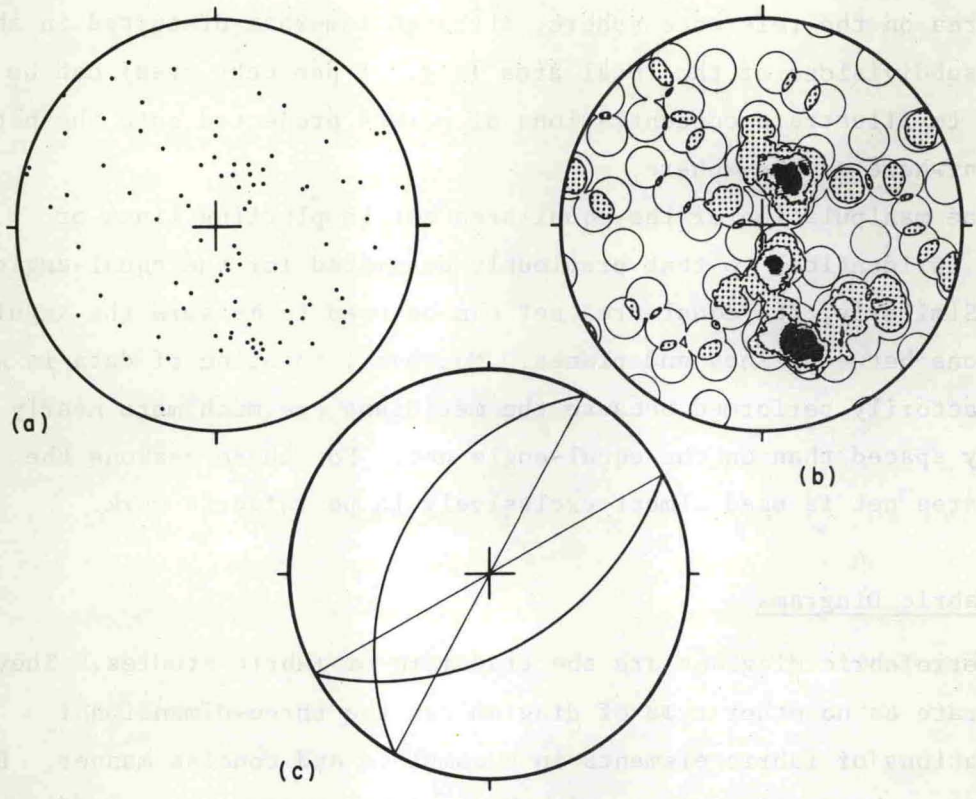

Fig. 6—Three types of petrofabric diagrams. (a) Point diagram illustrates the orientation of normals to 100 planar features or axes. (b) Contoured or density diagram of the points in (a); contours are at 1, 2, 4, and 6 per cent per 1 per cent area, 10 per cent maximum. (c) Stereogram shows two planes intersecting at 70 degrees. All diagrams are in lower hemisphere equal-area projection.

samples. In these, the data from the individual samples are rotated to a common plane of reference.

Petrofabric diagrams are easily read if the reader understands how lines and planes are plotted in lower hemisphere equal-area projection and if the writer has supplied a sufficiently informative caption. This should include at least the following: (a) sample designation, (b) type and number of data being illustrated, (c) orientation of the plane of the diagram, (d) location of geographic and/or geologic reference coordinates, and (e) nature of the contours and their values (if the diagram is contoured). The accuracy within which any point is located on a petrofabric diagram is a function of