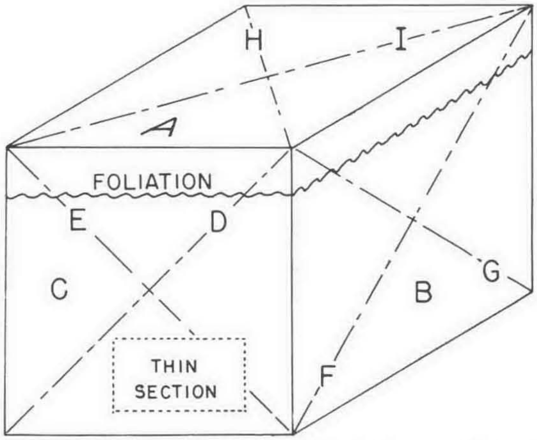


Fig. 5. Schematic sample in the form of a block showing thin section, sections for x-ray work, and foliation location. Block need not be larger than two inches on a side. See text for further explanation.

Errors related to this latter absorption factor will only increase or decrease the value of the final contour; it will not change the appearance of the diagram. This is to say that regardless of the absolute intensity values assigned to the peaks of the powder pattern (providing that the *relative* intensities agree with those of the correct powder pattern) the positions of the "highs" and "lows" of the diagram will remain unchanged. However, it would be better to obtain the correct absolute intensities of the powder pattern since the final contour values of the petrofabric diagram will then represent directly the amount of departure from randomness in the sample fabric. If this error did not exist then a contour assigned the value of three would enclose an area in which there would be at least three times as many crystallographic axes of that orientation than would exist if all of the axes were of random orientation.

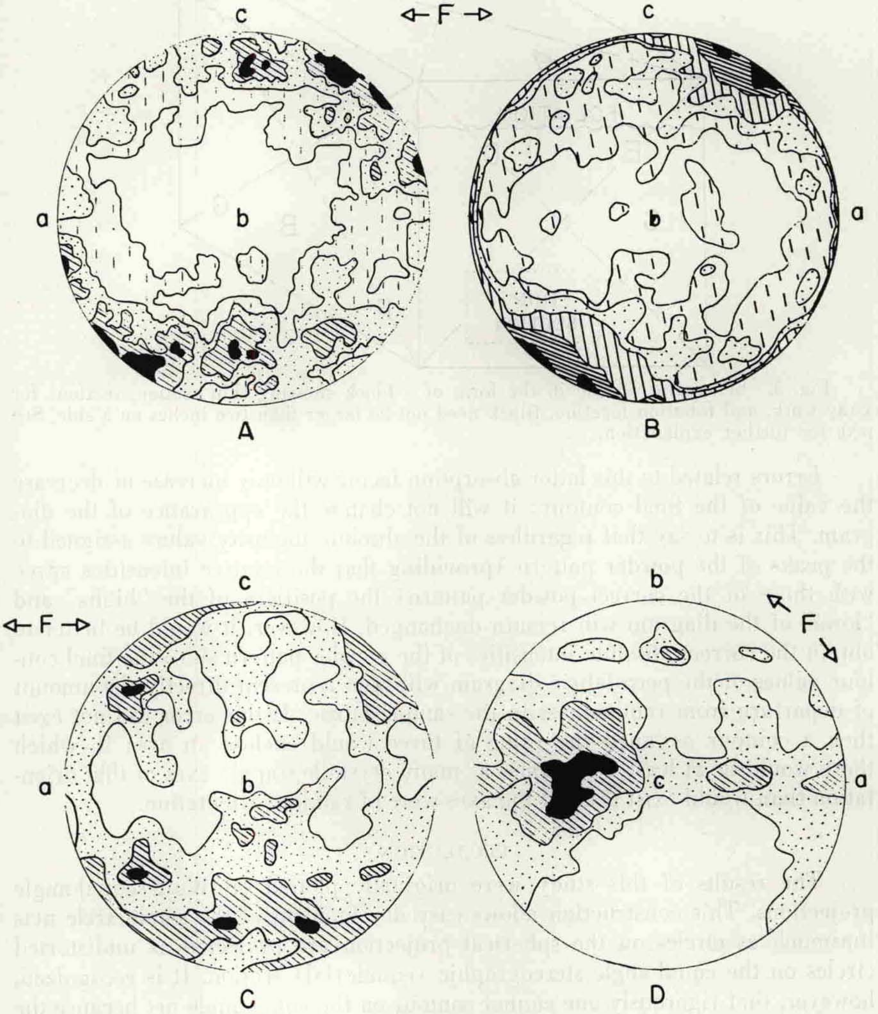
PROJECTION

The results of this study were originally plotted on Wulff equal-angle projections. This construction allows easy development of the small-circle nets inasmuch as circles on the spherical projection are projected as undistorted circles on the equal-angle stereographic (equatorial) section. It is recognized, however, that rigorously one cannot contour on the equal-angle net because the half-way point in distance between two values on the spherical projection is not the half-way point when projected onto the stereographic section. Therefore, all petrofabric data have been transferred to the Schmidt equal-area net.

APPLICATION TO SELECTED TECTONITES

Sierra Pelona Quartzite.—This sample, collected by the writer from Sierra Pelona, California, was studied as part of a more general program to determine possible directions of tectonic movement in the vicinity of the San Andreas Fault. The rock is a loosely coherent, nearly pure quartzite containing only 1 percent muscovite and a trace of calcite. Traverses normal to the foliation

PLATE 1



A. Quartzite, Sierra Pelona, California. 250 c-axes with contours 0, 0.8, 2, 3, 5% per 1% area. F and b are foliation and lineation, respectively. Schmidt Equal Area Net.

B. X-ray petrofabric diagram of Sierra Pelona quartzite. Contours 1.0, 1.3, 1.5, 2.0, 2.5 times powder intensity. Schmidt Equal Area Net.

C. X-ray petrofabric diagram of Sierra Pelona quartzite, using data from two sections of B (above) and from two other closely adjacent sections. Contours 1.0, 1.2, 1.3 times powder intensity. Schmidt Equal Area Net.

D. X-ray petrofabric diagram of Sierra Pelona quartzite using data employed in both diagrams B and C (above). Note difference in orientation compared to B and C. Contours 1.0, 1.3, 2.0 times powder intensity. Schmidt Equal Area Net.