plane before and after rotation (selected so that $\beta>\alpha$); γ is the angle between the glide line and the axis of internal rotation and S_O is the coefficient of resolved shear stress. For the glide system under consideration γ is 60° and S_O is given values of 0.4-0.5 (Turner, et al., 1954). For rotations of L_9 ranging from 5° to 12° the calculated strains are 5 to 18 percent.

There are certain limitations to the acceptance of these figures as a measure of the actual strain in the rock. Estimation of strain from the rotation of L_9 lamellae assumes that all the deformation was achieved by translation-gliding on {0001}, and there is evidence in most grains of limited twin-gliding. Moreover, many of the grains contain minute dark granules which may have resulted from the disruption of rotated lamellae. It is probable, in the writer's opinion, that L_9 lamellae become too diffuse for measurement and are eventually disrupted when the strain is much in excess of the values recorded above. Thus the strain recorded in the rotation of L_9 lamellae in individual grains is probably less, and perhaps considerably less, than the total post-crystalline strain in the rock.

CONCLUSION

The Loch Ailsh dolomite has a strongly-oriented tectonite fabric of unknown origin, with almost orthorhombic symmetry. The fabric yields a unified picture of translation-gliding on {0001} and twin-gliding on {02$\bar{2}$1}, dating from the final stage of deformation of the rock. This late post-crystalline deformation probably took place at a comparatively low temperature and was produced by a strong compression directed along an axis plunging 50° to N315° E.

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