been produced in this area. Evidence that this happened has been presented elsewhere (Chesworth 1969). It might also be suggested that some (at least) of the nepheline-syenites in the region could have arisen by anatexis. A detailed study of this possibility remains to be made. Certainly the assemblage nepheline-albite is, and should be, found in the nepheline syenites of Glamorgan township (Fig. 5).

Finally, and using the method of Turner (1967), a curve for the reaction Tremolite+3 Calcite=4 Diopside+Dolomite+CO_2+H_2O was calculated, no doubt with a large uncertainty. However, it can be used to suggest the possible stability of the assemblage calcite-diopside-tremolite in marbles in the area. Again, this fact is confirmed by field observation.

The conditions deduced therefore appear to be consistent with the mineralogy of Glamorgan township as a whole. They appear also to be consistent with conditions deduced for the rather similar metamorphic assemblages found in parts of the Pyrenees. Hess, for example, estimates pressures between 4.0 to 4.5 kilobars for the central Pyrenees.

Conclusion

Metamorphic assemblages in rocks from Glamorgan township in the Haliburton Highlands show resemblances with those of amphibolite facies rocks in both the Scottish Highlands and the Abukuma Plateau. This would indicate that metamorphism in this part of the Grenville province is of Miyashiro's (1961) low pressure intermediate type.

A metamorphic grid, set up on the basis of three field observations, suggests that conditions of formation fell within the load pressure range 3.5 to 7 kilobars, and the temperature range 580 to 700 °C. This spread of conditions is consistent with other field data for which there is equivalent experimental evidence.

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