a southern vergence. F_4 folds have steep axial surfaces trending north-easterly and steep plunges. White micas kinked by F_2, F_3 and F_4 folds are well recovered in F_2 folds, but not in F_3 and F_4, indicating that F_2 was pre or syn Lepontine metamorphism and F_3 and F_4 were post Lepontine (assuming that Lepontine temperatures were high enough for recovery).

The following tentative conclusions are drawn. The contact between units (*a*) and (*b*) is a fundamental tectonic contact and this contact, the phyllonites and F_1 folds are interpreted along with the high pressure metamorphism as a product of subduction. F_2 folds are interpreted as a product of deformation associated with post subduction uplift. It is suggested that the uplift produced a topographic high and subsequent gravity induced flow, away from this high, gave rise to the F_3 folds. It is further suggested that the F_3 folds can be correlated with the Rückfaltung and rétrocharriage of German and French writers respectively.

W. G. Ernst - *Electron microprobe study of Voltri eclogites.*

Metagabbroic lenses within the Beigua serpentinite have recrystallized in five intergradational stages. Stages A and B =: garnet + omphacite + rutile, representing pre- and post-mylonitization growth, respectively. Stage C = glaucophane + garnet ± ± rutile ± sphene ± barroisitic hornblende ± epidote. Stage D = barroisitic hornblende + + albite + chlorite + clinozoisite + sphene.

Garnets are enriched in Fe and Mg, depleted in Ca and Mn proceeding from stage A cores to stage B (and C) rims. Post mylonitic stage B omphacites are Na- and Al-rich compared to the more diopsidic stage A clinopyroxenes. Sodic amphiboles of stage C appear to be ferroglaucophanes rather than pseudobinary glaucophane-riebeckite solid solutions. Calcic amphiboles of stages C and D are strongly enriched in Na and in both Al^{IV} and Al^{VI} (barroisites) relative to the greenschistic aluminous actinolites of stage E. Epidote-clinozoisites tend to be ferric iron-rich in stage D, Al-rich in stage E schists. Most chlorites are ripidolites. Sodic plagioclases are virtually pure albites. Stage A omphacite + garnet pairs exhibit more or less systematic iron-magnesium distribution with $K_D \approx 30$. Glaucophane replaced preexisting omphacite, hence garnet rim + glaucophane partition values ($K_D \approx 28$) may reflect an inherited stage B garnet + clinopyroxene fractionation of Fe^{2+} and Mg.

Physical conditions attending the metamorphic recrystallization of the Ligurian eclogitic rocks have been estimated, based on analogies with previously available phase equilibrium experiments, oxygen isotopic data for somewhat similar parageneses, thermochemical calculations, and experimental determination of the pressure and temperature coefficients of K_D. Stage A assemblages are deduced to have formed at 430 ± 50° C and about 10 kilobars confining pressure, with stage B conditions including slightly higher temperatures and pressures. Garnet + glaucophane rocks of stage C are thought to have formed at approximately 400° C and 8 kilobars P_{total}, attended by increased values of μH_2O relative to the preceding stages. Strong depressurization and slight cooling apparently characterized the passage of these rocks through stage D and E conditions, namely 300-375° C and 2-5 kilobars total pressure. The chemical potential of H_2O probably was high, as reflected by the hydrous nature of the assemblages.