Table 1. Column 1: Model 'pyrolite'; Column 2: 'Pyrolite minus 40% olivine' used in experimental runs. Both compositions retain excess olivine in the high pressure assemblages

	1	2	C.I.P.W. Norm	1	2
SiO_2	45.20	47.84	Or	0.8	1.3
TiO_2	0.71	1.18	Ab	5.0	8.3
Al_2O_3	3.54	5.90	An	6.6	11.0
Cr_2O_3	0.43	0.72	Di	6.8	11.3
Fe_2O_3	0.48	0.80	Hy	15.8	26.4
FeO	8.04	8.21	Ol	62.5	37.5
MnO	0.14	0.13	Ilm	1.3	2.2
NiO	0.20	0.18	Mt	0.7	1.1
MgO	37.48	28.73	Ap	0.6	1.0
CaO	3.08	5.14			
Na_2O	0.57	0.95			
K_2O	0.13	0.22			

should be pointed out that the experimental evidence for intersection of the two boundaries is subject to doubt. The persistence of Fo + An (1 : 1 mix) in a 2 hr run at 1200°C 8 kb was taken by Kushiro & Yoder 1966 (Fig. 1, Table 1) as indicating stability of that assemblage, but in the light of the present experiments showing the necessity of seeding with pyroxenes + spinel at 1250°C, 3 hr runs, the Fo + An may have been metastable. Other data on the Fo + An, (1 : 1 or 2 : 1) mixes, permit a much smaller slope (dT/dP). Similarly, in their studies on the appearance of garnet in the Fo + An (1 : 1 and 2 : 1) mixes, Kushiro & Yoder used (Fo + An) glass or (Fo + An) finely crystallized material and seeded some runs with 5% Ga + Cpx ± Fo. However, the (Fo + An) assemblage is metastable on the low pressure side of the reactions under study, i.e.:

(2) $Opx_{ss} + Cpx_{ss} + An \rightleftharpoons Garnet \pm Cpx$ (1 : 1 mix)
(3) $Opx_{ss} + Cpx_{ss} + Fo \rightleftharpoons Garnet + Fo \pm Cpx$ (2 : 1 mix)

Thus, the metastable growth of garnet seeds instead of $Cpx_{ss} + Opx_{ss} +$ Sp is possible. It should be noted that Kushiro & Yoder (1966, Figs. 1 & 2, Tables 1 & 2) obtained $Opx_{ss} + Cpx_{ss} +$ Sp + Fo from runs, seeded with garnet, at 1160°C, 14 kb, 4 hrs (1 : 1 mix) and from runs at 1175°C, 18 kb, $1^1/_2$ hrs and 1225°C, $18^1/_2$ kb, $1^1/_2$ hrs (2 : 1 mix). These results were regarded as erroneous by the authors, but, if valid, they imply a steeper slope (dT/dP) for the boundaries marking the incoming of garnet.

Thus it is emphasized that neither the previous studies nor the present study are adequate to define dT/dP for the reaction between forsterite and anorthite to yield pyroxenes and spinel, nor of the latter assemblage to yield garnet ± olivine. Petrological application of the experimental data in the Fo + An system must recognize the experimental uncertainties and difficulty. The authors consider that at present there is no evidence either from natural highly magnesian peridotites nor from the experimental study, that reactions (1) and (3) intersect under geologically significant conditions.