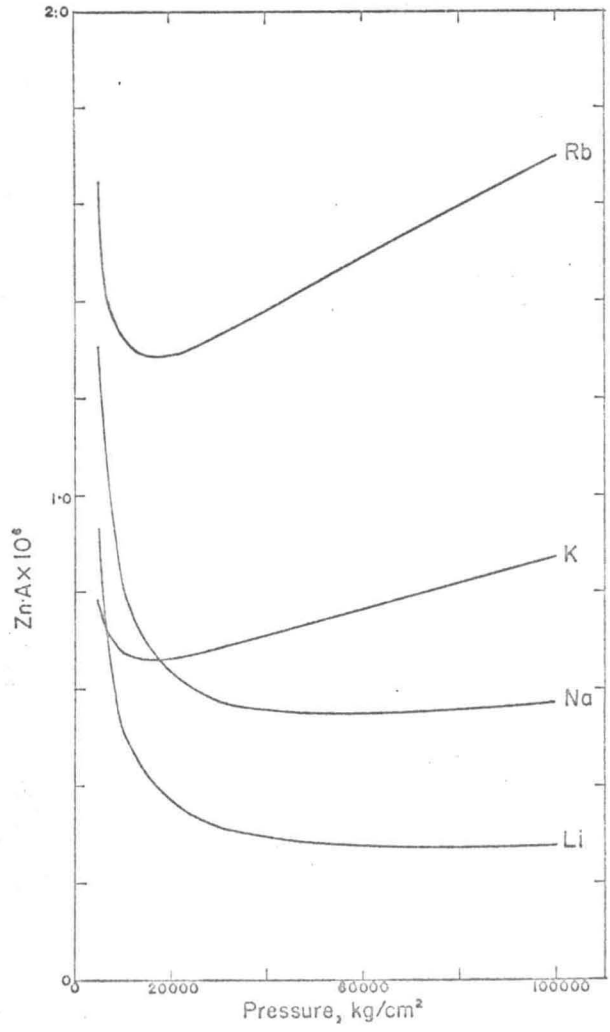

FIG. 1. Pressure vs. number-average degree of association, Zn, times A for lithium, sodium, rubidium and potassium.

BEECROFT and SWENSON[6] on sodium at a variety of temperatures and pressures will be analyzed in a subsequent publication.

Evaluation of A

The first calculations were of $(v-B)/A$ and ZnA as given by equations (4) and (6). The results of these calculations are shown on Figs. 1, 2 and 3. As can be seen the curve of ZnA shows a minimum. This implies that on the application of pressure the degree of association of the solid first decreases to a minimum and then increases. At first glance this appears impossible but careful examination shows that it is logical. One must ask first what is meant by the degree of association of a solid. From the discussion in I, one sees that essentially the structure of a liquid and a solid are alike: both consist of small particles separated by defect space. The essential difference is that the liquid particles exhibit approximate 5-symmetry while the solid particles have 3, 4 or 6 symmetry.