Figure 23 shows some of Bridgman's results in the form of relative resistivity versus relative volume for the alkali metals at room temperature. The notable feature of the curves in this Figure is that in Na, K and Rb the resistivity falls markedly with pressure and only begins to increase at very high pressures. By contrast the resistivity of Cs goes through a minimum at quite low pressures and then rises sharply: in Li the resistivity *increases* at all pressures in this range.

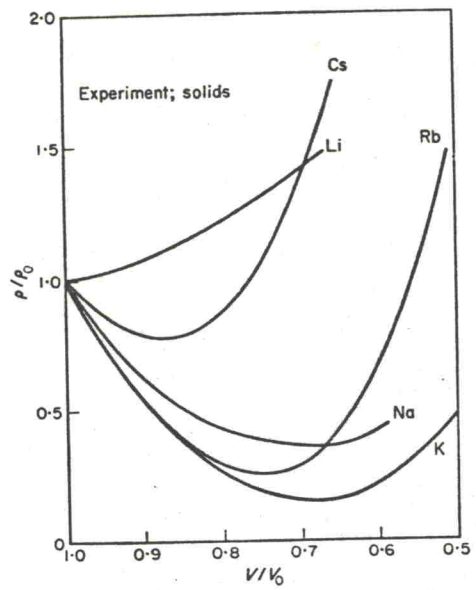

FIG. 23. Bridgman's results of the alkali metals at 0° C. The curves show relative resistance versus relative volume.

An important point in understanding these curves is as follows. No phase transitions occur in the pressure and temperature range under discussion so that we may be confident that the mean-square amplitude of the lattice vibrations decreases monotonically with increasing pressure for all the metals throughout this pressure range. The lattice vibrations by themselves, therefore, cannot account for the minima in these curves or for the positive slope of the Li curve. These effects must therefore be attributed to the change in K with volume. In order to emphasize this point the relative values of K versus relative volume for all the metals are shown in Fig. 24. (In order to obtain these curves, the change in θ with volume has been estimated from the compressibility of the metals.) It is clear that the main features of the ϱ–V curve remain in the K–V curves.