(4). It is seen that γ_G and γ_R have very nearly the same values.† Thus, just as the temperature dependence of ρ_i is given surprisingly well by the Bloch–Grüneisen expression, so the temperature dependence of the pressure coefficient agrees with the simple theory better than one would have expected from more sophisticated theoretical considerations.

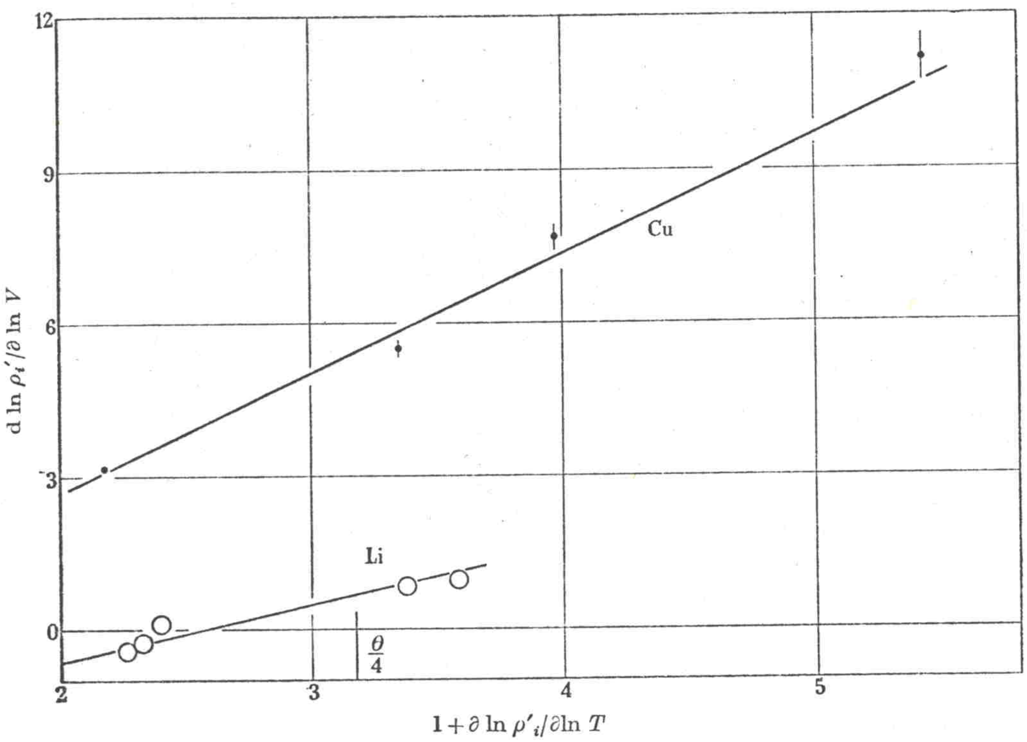

FIGURE 5. The volume coefficient of the ideal resistivity compared with the temperature coefficient of the ideal resistivity of copper and the b.c.c. phase of lithium.

TABLE 12. THE COEFFICIENTS γ_R AND $\mathrm{d}\ln K/\mathrm{d}\ln V$

	Cu	Li	Na	K, all T	K, $T > \frac{1}{4}\theta$
$\dfrac{\mathrm{d}\ln K}{\mathrm{d}\ln V}$	$-2{\cdot}_0$	$-2{\cdot}_9$	$1{\cdot}8_5$	$2{\cdot}_9$	2·3
γ_R	$2{\cdot}_3$	$1{\cdot}_1$	1·3	1·4	1·6
γ_G	2·0	$0{\cdot}9_0$	1·3	1·3	

4·2·2. *Departures from simple theory*

It is interesting to consider why the simple theory works and what its limitations are. We can come to some conclusions about this by considering the $\rho_i - T$ curves of any one metal at different densities as though they were the properties of different

† We shall later be interested in the deviations from the linear relation predicted by equation (2) and we therefore include in Table 12 values of γ_R and $\mathrm{d}\ln K/\mathrm{d}\ln V$ for potassium which we deduce from results at 'high' temperatures, i.e. for temperatures greater than about $\frac{1}{4}\theta$.