Experimentally we find that, for sample I, $d \ln \rho_0 / d \ln V \simeq -0.7$ and for sample II, $\simeq -0.3$. It is difficult to know what are the predominant scattering processes that contribute to the residual resistances; although iron is nominally the dominant impurity it is almost certainly not present in solid solution in these two specimens because they show no resistance minimum (cf. Pearson 1955). Zinc does not produce a resistance minimum in copper and it may be that this is the main impurity present in solid solution. Various physical defects were presumably present also, and the difference between the measured pressure coefficients can probably be accounted for by the different contributions from impurities and strains.

TABLE 2

$T(^{\circ}\text{K})$	$10^3 R_i$ (Ω)		$10^3 R_0$ (Ω)	$10^5 \dfrac{dR_i\dagger}{dT}$ ($\Omega/^{\circ}\text{C}$)	$\dfrac{T}{\rho_i}\dfrac{d\rho_i}{dT}$	$\dfrac{1}{\rho_0}\dfrac{d\rho_0\ddagger}{dp}$ (%/1000 atm)
291·1	42·4	± 2	18·1 ± 2	17·3	1·19 ± 0·1	−0·2 ± 0·05
80·0	5·47	± 0·3	14·17 ± 0·2	15·6	2·3 ± 0·2	+0·01 ± 0·02
78·0	5·15	± 0·3	14·32 ± 0·2	—	—	+0·021 ± 0·014
26·5	0·108	± 0·005	13·15 ± 0·01	—	—	+0·019 ± 0·005
4·2	—		15·048 ± 0·001	—	—	+0·034 ± 0·015

† $dR_0/dT = 2·1 \pm 0·5 \times 10^{-5}\ \Omega/^{\circ}\text{C}$ between 26·5 and 291·1° K.

‡ We have used the following mean values of $\dfrac{1}{\rho_i}\dfrac{d\rho_i}{dp}$ in estimating this coefficient

$T(^{\circ}\text{K})$	$\dfrac{1}{\rho_i}\dfrac{d\rho_i}{dp}$ (%/1000 atm)
291	−0·22
80	−0·39
78	−0·40

In sample III we know that the only important impurity is iron (0·056 at. %). Because the impurity resistance of this specimen is relatively large, we have been able to make some tentative deductions concerning the change with temperature of both this resistance itself and its pressure coefficient. By comparing the values of the total *resistivity* of this sample with that for ideally pure copper (i.e. we assume θ_R is not changed for this small impurity concentration) we have deduced values of ρ_0 at several temperatures (assuming always that it is meaningful to write $\rho_{\text{total}} = \rho_i + \rho_0$). Using these values of ρ_0 and an average of the measured values of $(1/\rho_i)\,d\rho_i/dp$, we could then deduce on the same basis what should be the values of $(1/\rho_0)\,d\rho_0/dp$ at these temperatures. The results of these calculations are given in table 2. We find that at 78° K the value of $(1/\rho_0)\,d\rho_0/dp$ is practically unchanged from its low temperature value; whereas at room temperature, this coefficient has changed sign and its magnitude has increased ten-fold. Unfortunately, Linde reports no pressure measurements on copper + iron alloys, but a comparison with his results on gold + iron alloys shows that their pressure coefficients at room temperature (at least for the larger concentrations measured by Linde) are opposite in sign to that of this copper + iron alloy and about ten times smaller—of about the same size, in fact, as we find at the low temperatures. From the values of ρ_0 at