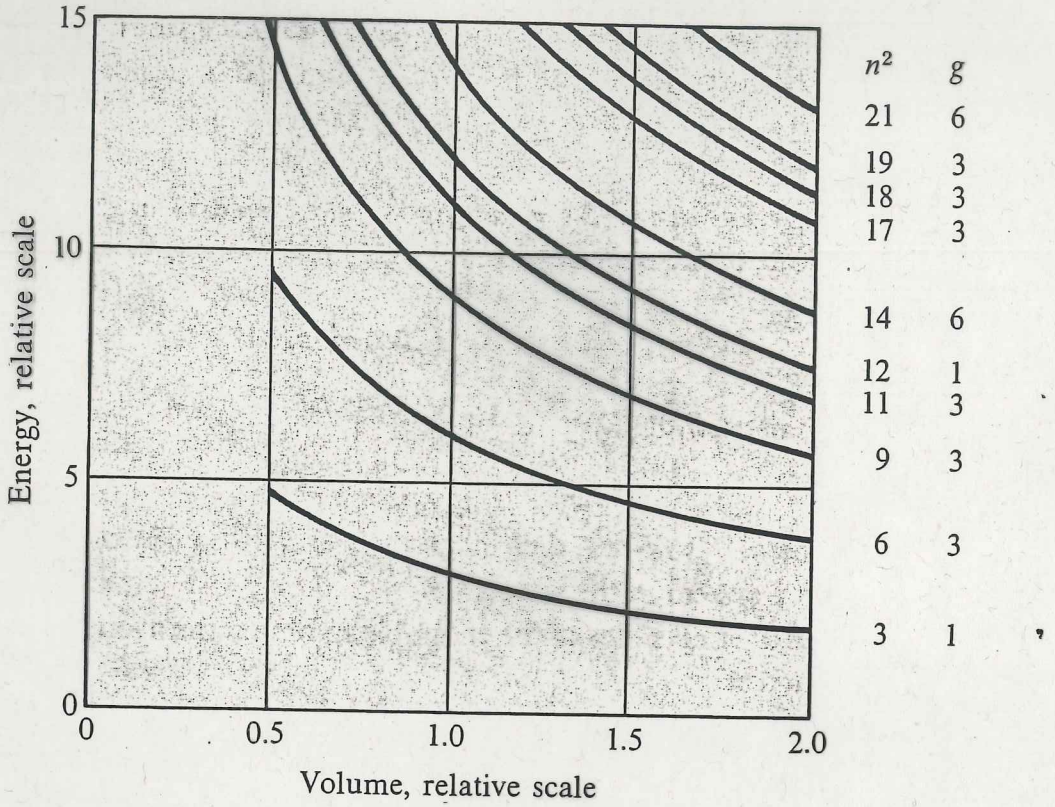

Figure 3.5 Dependence of energy on volume, for the energy levels of a free particle confined to a cube. The curves are labeled by $n^2 = n_x^2 + n_y^2 + n_z^2$, as in Figure 1.2. The multiplicities g are also given. The volume change here is isotropic: a cube remains a cube. The energy range $\delta\varepsilon$ of the states represented in an ensemble of systems will increase in a reversible compression, but we know from the discussion in Chapter 2 that the width of the energy range itself is of no practical importance. It is the change in the average energy that is important.

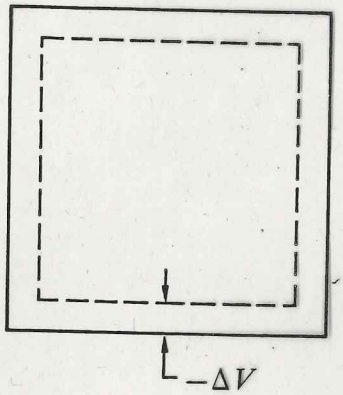

Figure 3.6 Volume change $-\Delta V$ in uniform compression of a cube.