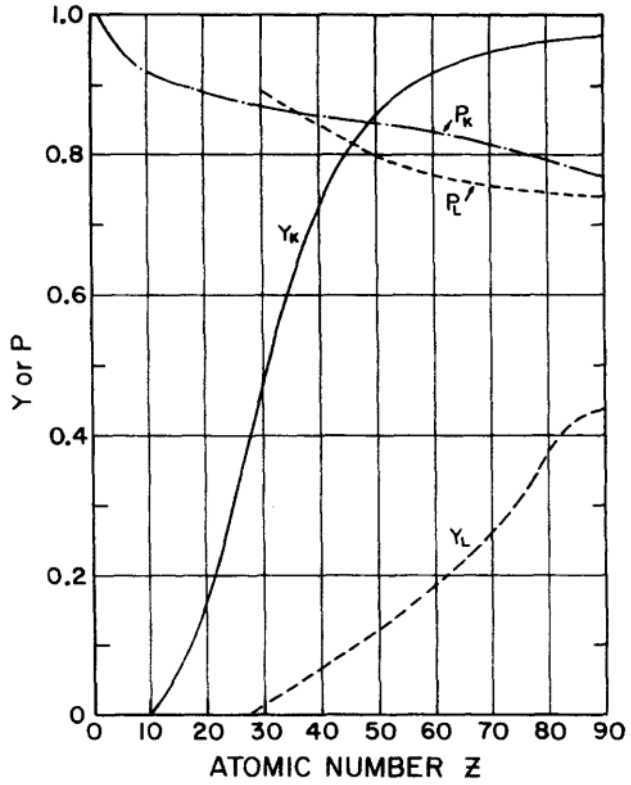

FIGURE 7.14. Fluorescence yield ($Y_{K,L}$) and fractional participation in the photoelectric effect ($P_{K,L}$) by K- and L-shell electrons (see text). P_K and P_L was calculated from tables of Hubbell (1969) and McMaster et al. (1969); Y_K from Lederer and Shirley (1979); and Y_L from Burhop (1952).

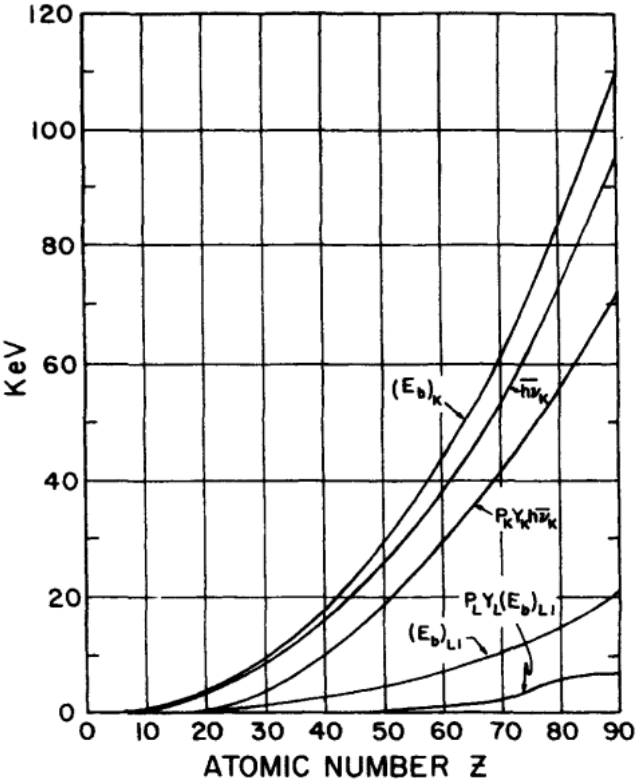

FIGURE 7.15. Electron binding energies $(E_b)_K$ in the K-shell and $(E_b)_{L1}$ in the $L1$-shell; weighted mean fluorescence x-ray energy $\overline{h\nu}_K$ in the K-shell; and the products $P_K Y_K \cdot \overline{h\nu}_K$ and $P_L Y_L\ (E_b)_{L1}$. The latter provides an upper-limit estimate of $P_L Y_L\, \overline{h\nu}_L$. Taken or derived from tables by Lederer and Shirley (1979).

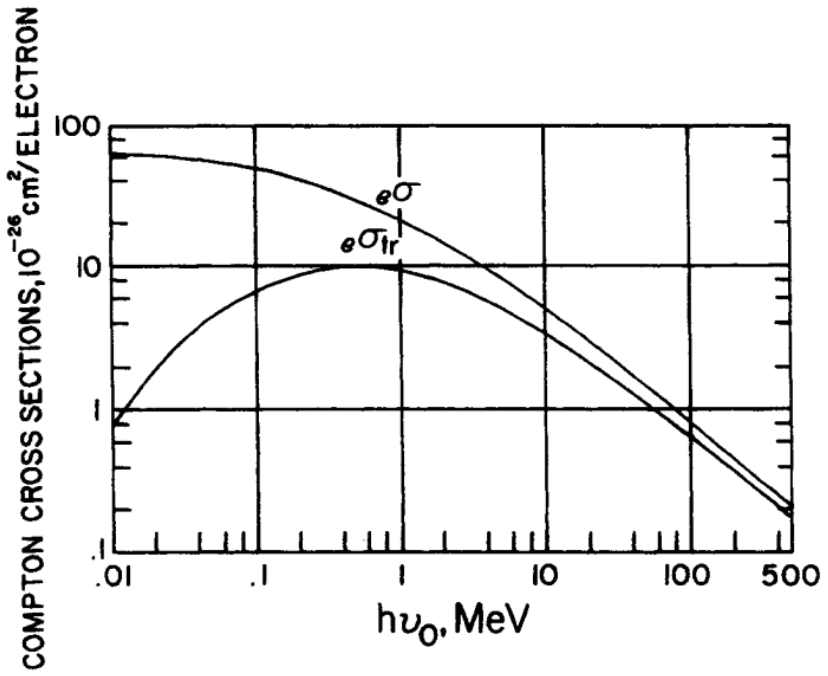

FIGURE 7.6. Klein–Nishina (Compton-effect) cross section per electron ($_e\sigma$) and corresponding energy-transfer cross section per electron ($_e\sigma_{tr}$) as a function of primary photon quantum energy $h\nu$. (After Nelms, 1953.)

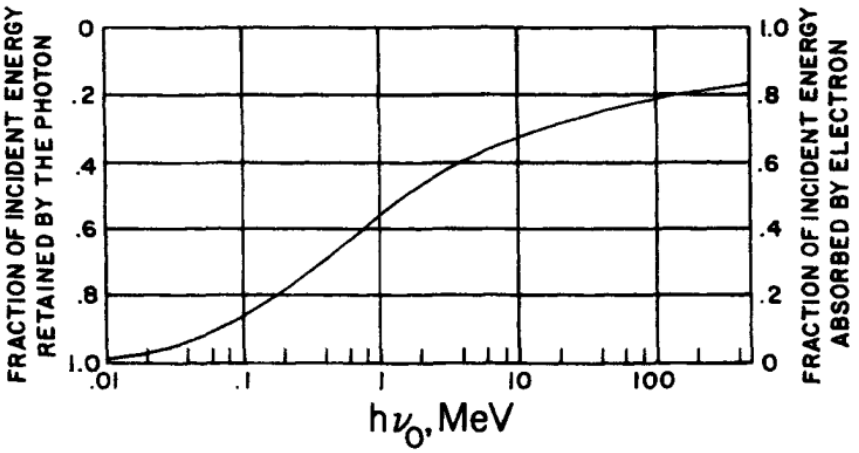

FIGURE 7.7. Mean fraction ($\overline{T}/h\nu$) of the incident photon's energy given to the recoiling electron in Compton interactions, averaged over all angles (right ordinate). Also, mean fraction ($h\bar{\nu}'/h\nu$) of energy retained by the scattered photon (left ordinate).