

*One should not imagine that two gases in a 0.1 liter container, initially unmixed, will mix, then again after a few days separate, then mix again, and so forth. On the contrary, one finds . . . that not until a time enormously long compared to  $10^{10^{10}}$  years will there be any noticeable unmixing of the gases. One may recognize that this is practically equivalent to never. . . .*

*L. Boltzmann*

*If we wish to find in rational mechanics an a priori foundation for the principles of thermodynamics, we must seek mechanical definitions of temperature and entropy.*

*J. W. Gibbs*

*The general connection between energy and temperature may only be established by probability considerations. [Two systems] are in statistical equilibrium when a transfer of energy does not increase the probability.*

*M. Planck*