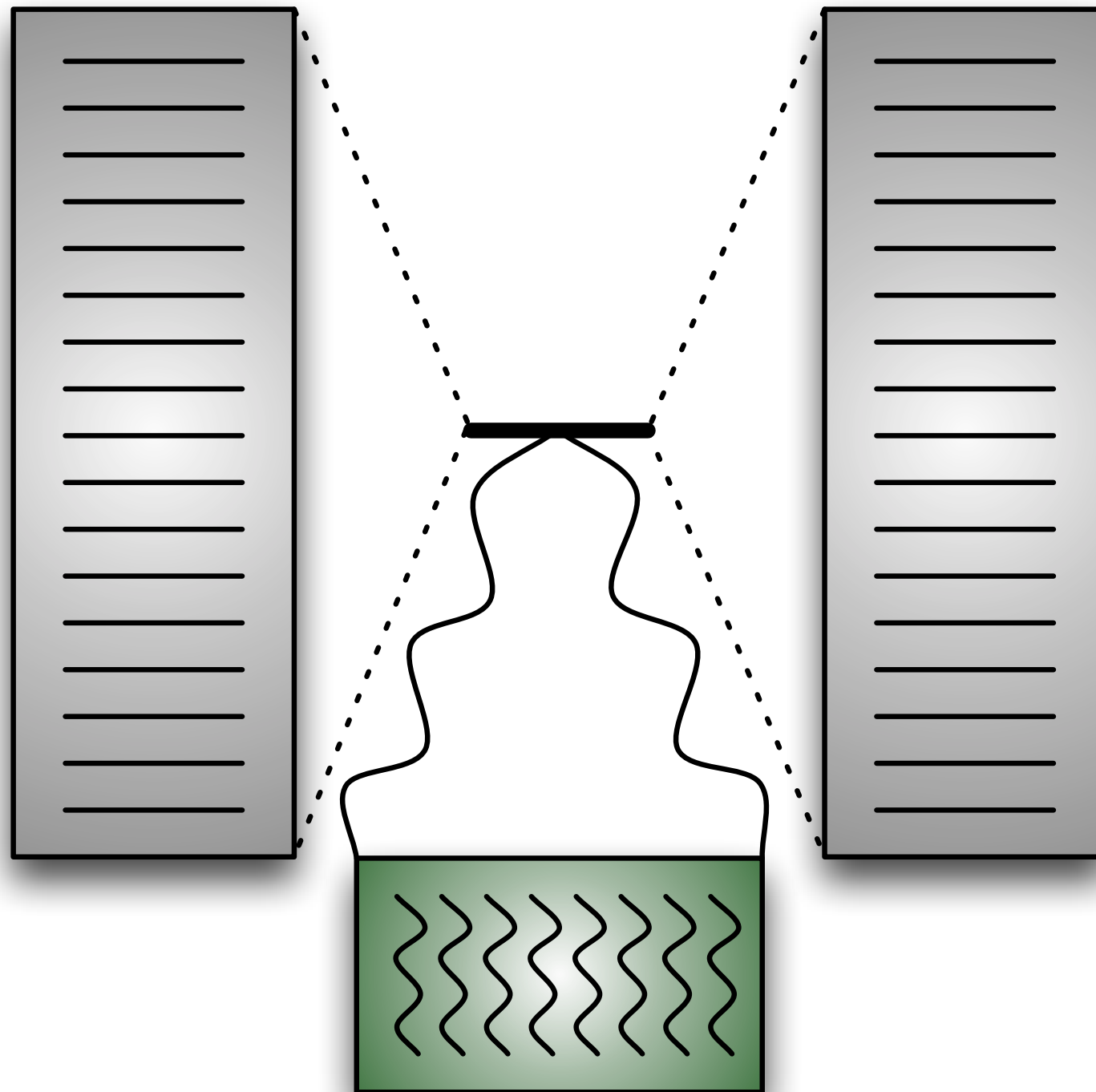
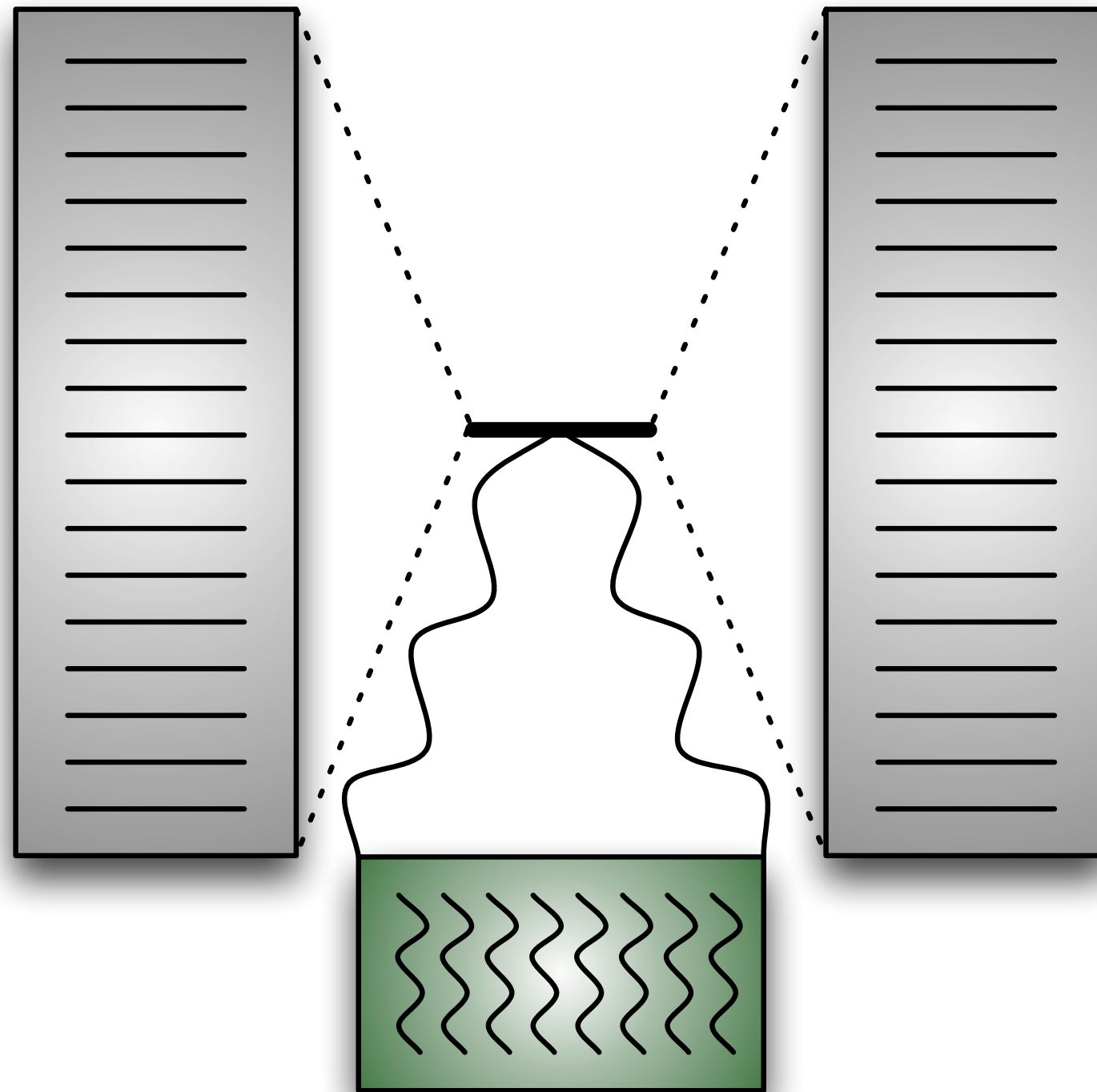


# Holstein Model



$$\hat{H}_{\text{Landauer}} + \hat{a}_0^\dagger \hat{a}_0 \sum_{\alpha} M_{\alpha} \left( \hat{b}_{\alpha}^\dagger + \hat{b}_{\alpha} \right) + \sum_{\alpha} \omega_{\alpha} \left( \hat{b}_{\alpha}^\dagger \hat{b}_{\alpha} + \frac{1}{2} \right)$$

# Holstein Model



$$H_{\text{Landauer}} + n_0 \sum_{\alpha} \Gamma_{\alpha} x_{\alpha} + \sum_{\alpha} \frac{\omega_{\alpha}}{2} (x_{\alpha}^2 + p_{\alpha}^2)$$