Kelvon–Phonon Interaction EVGENY KOZIK, BORIS SVISTUNOV, University of Massachusetts, Amherst — Kelvin waves (kelvons)—the distortion waves on quantized vortex lines—play the key part in the zero-temperature relaxation of superfluid turbulence. The relaxation scenario implies a Kelvin wave cascade, cut off by sound emission. We derive the kelvon–phonon Hamiltonian, thereby reducing the problem of interaction of Kelvin waves with sound to elementary excitation scattering. On the basis of this formalism, we revisit the problem of sound emission by superfluid turbulence.