Soft theorems for the scattering of low energy photons and gravitons and cosmological consistency conditions on the squeezed-limit correlation functions are both understood to be consequences of invariance under large gauge transformations. I apply the same method used in cosmology -- based on the identification of an infinite set of "adiabatic modes" and the corresponding conserved currents -- to derive flat space soft theorems for electrodynamics and gravity. I discuss how the recent derivations based on the asymptotic symmetry groups (BMS) can be continued to a finite size sphere surrounding the scattering event. Finally, I comment on Hawking-Perry-Strominger proposal of "soft hair on black holes".