expect that the generalized mass terms in the Lagrangian ($M\bar{\psi}\psi$ or $\lambda\phi^3$) could be neglected. In other words the leading asymptotic behavior of the Green's functions should be the same as would be calculated in a massless theory. This can be proved, to any finite order in perturbation theory, by using Weinberg's theorem.[9]. The massless theory contains no dimensional parameters to set the scale of momenta, therefore one might expect that the asymptotic behavior of the amplitudes would be determined by pure dimensional analysis. This is called naive or cannonical scaling. It does not occur in practice, since the massless theory does contain a hidden dimensionful parameter. This parameter, μ, must be introduced in order to perform the subtractions necessary to renormalize the theory and render it finite. Due to infrared singularities these subtractions, for the massless theory, must be performed off-shell, say at some space-like momenta $p^2 = -\mu^2$. The subtractions then define the physical coupling constants and the scale of the fields (which are determined by the wave function renormalization constants). The subtraction point, μ, is arbitrary. If we change the subtraction point the net effect is to change the value of the coupling constants and the scale of the fields. This fact is expressed by the renormalization group equations.

A change in the subtraction point, μ, is equivalent to a change in the scale of all momenta since μ is the sole parameter that fixes the momentum scale. Therefore one can use the renormalization group to relate Green's functions for one set of momenta and coupling constant to Green's function for a scaled set of momenta and different values of the coupling constants.