The amoeba of a subvariety $Y$ in the algebraic torus $(\mathbb{C}^*)^n$ is its image in $\mathbb{R}^n$ under the logarithm map. It is well-known that the amoeba of $Y$ approaches its tropical variety as the base of logarithm goes to 0. In this talk we address the question of extending the above from subvarieties in a torus to subvarieties in a reductive algebraic group $G$ or more generally a spherical homogeneous space $G/H$. This naturally becomes related to the problem of parametrizing $K$-orbits in $G/H$ (for a maximal compact subgroup $K$ in $G$) and can be considered as a generalization of the well-known Cartan decomposition (singular value decomposition) and Iwasawa decomposition in Lie theory. I will briefly cover some necessary background. This is a joint work in progress with Victor Batyrev, Megumi Harada and Johannes Hofscheier.