Animal societies develop from interactions and relationships that occur among individuals within populations. The fundamental tenet of behavioral ecology is that ecological factors shape behavior and determine the distribution and associations of individuals on landscapes. As a result, different social systems emerge in different habitats and under different environmental conditions. Since characterizing social systems depends on time and motion studies of individual actions and interactions that are often bilateral, such characterizations are often coarse-grained. If social relationships can be characterized using social networks, however, seemingly similar social organizations often reveal informative differences in terms of deep structure. Thus social network theory should be able to provide insights into the connections between social form and function. This talk will explore how the network structures of horses, zebras and asses can provide novel insights into the functioning of animal societies with respect to the spread of memes, genes and diseases.