Leviathans and General Distrust
Can Emerge From Mixing Gossips and Vanity

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Abstract

We propose a simple model made of a population of agents where each one has an opinion about each of the others. The agents interact by randomly chosen pairs and the interactions lead to slight random changes of the opinion each has on the other. Moreover, we include two different dynamics: one represents gossips where agents propagate their opinions about some other agents (and possibly themselves). In this propagation, they influence more the agents that have a good opinion of them. The second dynamics is a vanity effect: an agent likes to get a good opinion of herself from the others, thus she increases her opinion on those who propagate such a good opinion. On the contrary she tends to decrease her opinion about those who propagate a bad opinion (good and bad are relative to the opinion the agent has on herself). The combination of these dynamics shows interesting emergent properties. First, a general distrust tends to prevail for most of the model parameter values: each agent tends to have a negative opinion of all the others. For some parameters, this situation of general distrust leads to the emergence of one or a few agents who are highly considered by all the others, sometimes followed by a hierarchy of reputations with intermediate values. But this situation is unstable and always ends suddenly with the return to a generalised distrust. We try to understand the mechanisms behind these emergent behaviours.