

## REPUTATION IN CONSENSUS MODELS AND THE EMERGENCY OF DEMOCRATIC STATES

F. L. Forgerini

Federal University of Amazonas - Brazil.  
fabricio\_forgerini@ufam.edu.br

In this work we introduce Reputation, a mechanism that limits the persuasion capacity of the agents in some consensus models, namely the Sznajd model, the Voter Model and Majority Rule model. It is realistic to believe that the individuals will change their opinions under the influence of highly respected persons. To include this characteristic, we introduce a score for each agent, the Reputation, which is compared with other agents before each opinion's flip. In both traditional models one can find, for an initial opinion greater than certain threshold, two absorbent states in the long run, all agents with opinions  $+1$  or  $-1$ . This situation, with fixed points with all spins parallel, describe the opinion in a dictatorship, and do not represent a common situation in public debates and real opinion dynamics [1]. We show that, with exception to the Voter Model [2] the inclusion of the Reputation change this behavior in Sznajd [3, 4] and Majority Rule models [5], reaching a consensus with a majority spins parallel (but not all agents on network), which corresponds to a democracy-like situation. We believe that the inclusion of agents reputation makes the consensus models more realistic.

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