

EMERGENCE OF CONVENTIONS IN SOCIAL NETWORKS

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Abstract. *In this work is considered the problem of the emergence of conventions in a society through distributed adaptation by agents from their on-line experiences at run time. The agents are connected to each other within a fixed network topology and interact over time only with their neighbors in the network. Agents recognize a social situation involving two agents that must choose one available action from multiple ones. The study confirms the emergence of system-wide conventions via the process of social learning where an agent learns to choose one of several available behaviors by interacting repeatedly with randomly chosen neighbors without considering the identity of the interacting agent in any particular interaction.*

Keywords: social network, social interaction, convention, scale-free topology, multi-agent systems, machine learning.