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Predicting language diversity with the agent-based model on complex network

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Evolution and propagation of the world's languages is a complex phenomenon, driven, to a large extent, by social interactions. Multilingual society can be seen as a system of interacting agents, where the interaction leads to a modification of the language spoken by the individuals. Here we address the issue of the language diversity in societies of different sizes, and we show that local interactions are crucial to capturing characteristics of the empirical data. We propose a model [1] that cancels the contradiction between previous models and the Solomon Islands case. Our results demonstrate the importance of the topology of the network, and the rewiring mechanism in the process of language change.

[1] T. Raducha, T. Gubiec, Accepted to PlosOne (arXiv:1704.0835) (2018)