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The Impact of Population Structure on Models of Language Change

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Abstract: The dynamics of language evolution and learning in individuals have been extensively studied. Our knowledge of the transmission process in particular has been advanced by the iterated learning model. Additionally, work has been done in the area of population structure and social networks. However, less has been described about the interaction between individual-level transmission and network structures. We present a general framework for representing transmission and learning algorithms within social networks. We demonstrate that population structure interacts with the transmission process to influence the dynamics of change. Taking network effects into account, studies on language evolution will capture a fuller picture of the phenomenon.