

Language Evolution in Québec: Network effects and clustering

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Abstract

Language dynamics in multi-language societies is a growing field of study. Most extant research focuses on the dynamics of language death in multilingual societies. However, empirically languages form more complex patterns, including survival in local clusters. This paper lays the foundation for a model to explain the process by which dominated languages sustain themselves. The key mechanism we explore in this paper is the social-network effect that affects single or multiple language adoption. In particular we hypothesize an important role of bilingualism. To analyze this we extend existing, stylized, models that predict one single dominant language. We simulate the competition of two language groups who interact through a bilingual population. We include factors such as language status and ease of learning. The model is tested against the empirical case of Quebec from 1931 to 2006. We explore the importance of bilingual parents raising their children as bilinguals or unilinguals according to the relative attractiveness of each language. We find that this factor, while not critical in explaining qualitative patterns, is instrumental to replicate more accurate patterns. We conclude by developing a hypothesis of how spatial disaggregation of the network effects may explain the local cluster survival of dominated languages.