THE ROLE OF BILINGUALS IN LANGUAGE COMPETITION

E. Heinsalu[1], M. Patriarca[1], J.L. Leonard[2]

(1) National Institute of Chemical Physics and Biophysics,Rävala 10, Tallinn 15042, Estonia
(2) Institut Universitaire de France and UMR 7018, CNRS-Paris 3, 19 rue des Bernardins,75 005, Paris, France

We study the role played by bilinguals in the competition between two languages and in the formation of a bilingual community. To this aim we introduce a simple three-state model that combines the Minett-Wang model, in which the bilinguals do not affect directly the probability of transition of an individual from monolingualism to bilingualism, and the Baggs-Freedman model, in which such a transition probability only depends on bilinguals. The model predicts the possibility for the existence of a stable bilingual community though no particular conditions are assumed for the two competing languages: the asymptotic stability of the bilinguals community is only due to the type of dynamics regulating the transitions between different linguistic groups.The proposed model and the obtained results give some suggestions for the conditions necessary for the formation of a stable bilingual community. First of all, it is important that the bilinguals are valid representatives of the two languages, in the sense that they are regarded by monolinguals also as speakers of the other language. Besides that, the transition from bilinguals to monolinguals must be smaller than the opposite transition. Unless both these conditions are fulfilled, the stable equilibrium solution of the language competition is a monolingual society.

[1] E. Heinsalu, M. Patriarca, J.L. Leonard, Advances in Complex Systems **17**, 1450003 (2014).