

# Modelling Dynamic Processes in Creole Genesis Using an Agent-Based Model

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In this paper co-authored with Jinho Baik, Ken Kollman and Alton Worthington (University of Michigan), we present an agent-based model of language creation and acquisition that could offer insights into dynamic processes responsible for the emergence of creole languages. Our primary purpose is to provide a conceptual framework that allows us to examine hypothetical scenarios of creole genesis. The locus of attention is Haitian creole and we motivate our theoretical analyses by examining 18th century Haitian creole diachronic texts that reflect mixing of forms from French and possibly Fongbe. The 1793 and 1796 Haitian texts that are at the source of our data were first discussed in Hazel-Massieux (2008) and are creole translations of French documents promoting the emancipation of slaves in Haiti following the 1789 French Revolution.

Our model of language creation and acquisition tests the logical consequences of different assumptions about how people learn to adapt to a new linguistic environment in a multilingual setting. The model allows for the study of a series of possible scenarios accounting for the development of Haitian creole. While our focus is on Haitian, we believe that our model can be useful to study the development of other contact languages. The model is flexible and can accommodate various assumptions and parameters to fit diverse cases.

We hypothesize that dynamic processes of convergence and divergence may account for the instability or stability of the features that we observe in these texts.

Our findings suggest that Haitian creole arose from the combination of demographic changes involving blacks to whites ratios and the pressures upon the original creolophone speakers to conform to the variety of the French language spoken in their environment while preserving some of the L1 features (Mufwene, 2008; Aboh and DeGraff, 2014). Another important factor in our agent-based model is the incoming slaves' willingness to change their spoken language for the purpose of accommodating to others who have been in-situ for a longer period of time.