Understanding Language Evolution Using an Event-Based Model

David M. Goldstein^{1,+}, Shawn H. McCreight^{2,+} and John P. Huelsenbeck^{3,+}

¹ Department of Linguistics dgoldstein@humnet.ucla.edu

² Nytril LLC, 3060 San Pasqual St., Pasadena, CA 91107, USA shawn.mccreight@gmail.com

³ Department of Integrative Biology johnh@berkeley.edu

⁺ these authors contributed equally to this work

Figure 1. For the 'Basic Rules' model, states were grouped into five sets: Nasal Vowel (1), Vowel (2), Nasal Consonant (3), Non Sylabic Sonorant (4) and Consonant (5). Here, the area of the circles is proportional to the estimated equilibrium frequencies for each group. The width of the arrows is proportional to the estimated rates. Note that rates are higher for transitions from one word segment to another when the word segments are in the same group.

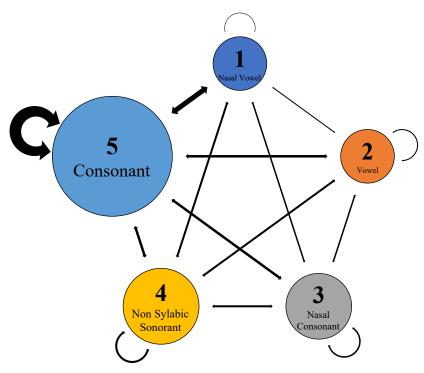


Figure 2. Frequency of occurance of segments in the lexicon (Max Planck Institute for the Science of Human History, 2019)

