The Linguistic Geography of Dorsal Consonants in Syria

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This study examines the structural basis of geographical patterns of dorsal consonant shifts in Syrian spoken Arabic, analyzing geocoded data from Behnstedt’s Sprachatlas von Syrien (1997) in the statistical environment R. We consider how differing structural arrangements among Syrian dialects constrain both the spread of internal sound changes and the borrowability of foreign phonemes, as well as examining phonetic influences on oppositional features in the case of uvular stop voicing and non-contrastive place distinctions.

The system of dorsal obstruents in Arabic (here including alveo-palatals, since ġ < ĝ and interacts with š) exhibits multiple phonemic gaps, creating significant structural asymmetry in the sense of Martinet (1955). In Standard Arabic, we find (1) voicing asymmetry among stops, here taken to include affricates (no voiceless counterpart to ġ, no voiced counterpart to k or q), (2) voicing asymmetry among fricatives (no voiced counterpart to š), and (3) place asymmetry between stops and fricatives (no velar fricatives, but both velar and uvular stops). Spoken dialects exhibit changes which function to reduce these asymmetries in differing ways. For instance, the Bedouin q < g shift restores a voicing contrast among velar stops and removes the oppositional contrast between velar and uvular place (Cantineau 1960), partially correcting asymmetries (1) and (3), while Levantine ġ > ž creates a voicing contrast among alveo-palatal fricatives and removes voiced dorsal stops from the inventory, correcting asymmetries (1) and (2).

In the present study, we first consider the shift of ġ > q, which is restricted to Bedouin-type dialects with q > g and bundles closely with its isogloss at the boundary with Levantine dialects. The fortition of ġ serves to preserve the uvular stop in opposition to the remaining uvular fricative x, and may be considered as the most advanced stage of a ġ < ĝ < q < ġ chain shift. The incompatible oppositional system of Levantine consonants blocks the spread of ġ > q in areas which would otherwise be in the path of its diffusion. Next, we consider the distribution of the palatalization of k, which provides a voiced counterpart to ġ and also constrains the availability of ċ in Turkish borrowings. Unsurprisingly, both dialects with k > č and dialects which are adjacent to Turkey are much more likely to borrow č; however, we also find that k-palatalizing dialects which are isolated from Turkish contact by Levantine-type dialects without palatalization do not borrow č in Turkish loans. Finally, we consider the divergent behavior of the dialects of Palmyra and Soukhe from the perspective of chain shifts and structural symmetry, with ġ > č triggering affricate-fronting and the loss of voiced dorsal stops.

The behavior of the dialects also raises phonological issues, since the behavior of q suggests underspecification for voicing due to the phonetic markedness of its voiced counterpart (Ohala 1983), and the ġ > q shift suggests that the phonetic velar/uvular distinction retains structural significance even when it carries no oppositional load.

Fig. 1. Dorsal consonant isoglosses. Fig. 2. Number of Turkish loanwords with č.