

Cross-Linguistic Differences and Similarities in Stop Voicing

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Languages with very different stop systems have been claimed to have voiced stops. Examples are German, Swedish, Turkish, Russian, and Hungarian. It is well-known that producing "voiced" stops with vocal fold vibration in certain positions, e.g., utterance initial position, requires more effort than is required in other positions, e.g., intervocalic position (Ohala 1983; Westbury & Keating 1986). This might lead us to expect that vocal fold vibration would sometimes fail to occur during closure (prevoicing) in word/utterance-initial position with "voiced" stops in languages such as Hungarian, where there is a two-way contrast between voiced (or lenis) stops and voiceless (or fortis) stops. Such lack of prevoicing in word initial stops in English and German is sometimes explained away in this manner. However, if it were found that most or all lenis stops in Hungarian are actually voiced during closure, even in word/utterance-initial position, where voicing is known to be difficult, this might be explained by the observation that the failure to produce prevoicing in Hungarian stops in word/utterance initial position would result in the failure to maintain the voicing contrast. On the other hand, we might expect speakers to fail to voice word/utterance-initial stops in a language such as Swedish or Turkish because these languages also have a two-way contrast between fortis and lenis stops, but the fortis stops are aspirated in word-initial position. In these languages, if lenis stops are not voiced in utterance/word-initial position, the contrast would still be maintained because one series of stops would be voiceless unaspirated and the other aspirated.

This paper reports on empirical research on the voicing of stops in initial, medial, and final position in four languages with two-way laryngeal contrasts. Six speakers of Russian, Turkish, Swedish, and Hungarian, three males and three females, were recorded in sound treated rooms. Speakers read lists of words which included fortis and lenis stops in various positions, including word-initial, intervocalic, and word-final position. The list contained fillers so that it was not obvious that the focus was on stops. Each subject read the list twice. Acoustic analysis of the initial stops was performed using Wavesurfer.

The results are considered in light of various recent claims, including claims about the explanatory usefulness of notions like "ease of articulation" and "maintain contrast" and claims about differences between languages with underlying [voice] contrasts and languages in which voicing is the result of phonetic "passive voicing."