

Language-Specific Articulatory Settings: Evidence from Inter-Utterance Rest Position

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Abstract

The possible existence of language-specific articulatory settings (underlying or default articulator positions) has long been discussed, but these have proven elusive to direct measurement. This paper presents two experiments using X-ray data of 5 English and 5 French subjects linking articulatory setting to speech rest position, which is measurable without segmental interference. Results of the first experiment show that speech rest position is significantly different across languages at 5 measurement locations in the vocal tract, and is similar to previously described language-specific articulatory settings. The second experiment shows that the accuracy of achievement of speech rest position is similar to that of a specified vowel target (/i/). These results have implications for the phonetics and phonology of neutral vowels, segmental inventories, and L2 acquisition.

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Introduction

That languages differ in their general pronunciation tendencies has been noted by scholars since at least the 7th century AD [Laver, 1978]. Sweet [1890, p. 69] called such a tendency the 'organic basis' of a language, and he stated: 'Every language has certain tendencies which control its organic movements and positions, constituting its organic basis or the basis of articulation. A knowledge of the organic basis is a great help in acquiring the pronunciation of a language.' Honikman [1964] revived the study of organic basis in the English literature, and she gave it a new name: 'articulatory setting' (AS). She defined AS as the 'gross oral posture and mechanics' required for the 'economic and fluent' production of the 'established pronunciation of a language' [Honikman, 1964, p. 73] (Laver [1978] and Jenner [2001] give excellent historical surveys of this concept). Indeed, if such a postural basis underlies every language, this must not only contribute in large part to the overall 'sound' of a language or dialect, but must also interact with its phonetic inventory and phonological patterns – both influencing and being influenced by them – in as yet unknown ways, and must greatly influence how this overall sound changes over time.

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0031–8388/04/0614–0220
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