

Anticipatory Coarticulation and the Perception of Nasality in VN Syllables

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I. INTRODUCTION

It is a well-known phonetic fact that speech sounds occurring in sequence tend to influence one another. Borden and Harris (1984) classified this kind of influence into three types, i.e., adaption, assimilation, and coarticulation. Adaption is defined as the “variations in the way, in which articulators move and the extent to which cavities change shape, according to what phonemes are neighbors” (Borden & Harris 1984:120). Assimilation, is referred to as an extreme form of adaption in which “a phone may actually change to to be more like its neighbors” (*op cit*: 130). Coarticulation, is defined, on the other hand, as the process of two articulators “moving at the same time for different phonemes” (*op cit*: 130). Coarticulation differs from adaption in that it involves two articulators (the latter involves one) and it also differs from assimilation in that it usually does not result in actual sound change. One example of coarticulation is the lip-rounding of consonants occurring before [u] (e.g. $\left[\underset{w}{ku} \right]$), with both [k] and [u] retaining their phonetic identities. In (C)VN sequences (C, V and N represent consonant, vowel and nasal respectively), while the tongue assumes the position for the V, the velum begins to lower its position in anticipation of the N, thus nasalizing the V even before the tongue is ready for the articulatory gestures for the N. In this sense, vowel nasalization before nasal consonants can also be considered anticipatory coarticulation.

Coarticulation necessarily produces allophonic variations in one or both phones that participate in the process. Phoneticians and psycholinguists have long been interested in the relation between the acoustic/articulatory characteristics of these allophonic variations and perception. More specifically, they are interested in finding out whether or not these differences are perceptible on the perceptual level. One of the attempts in this regard is the study of coarticulated nasality. Moll and Daniloff (1971, as reviewed in Ali *et al.*