Breathiness and pre-aspiration in Aberystwyth English

Michaela Hejná
University of Manchester
mispudlina@gmail.com

Pre-aspiration, a period of voiceless glottal friction which occurs before voiceless obstruents in some languages, is usually preceded by a breathy transition from the vowel. This transition differs from pre-aspiration by presence of voicing. Previous research into pre-aspiration has usually treated breathiness and pre-aspiration as a single unit (e.g., Dommelen et al. 2011: 600; Helgason & Ringen 2008: 611). However, it is not clear whether the two behave as a single whole. If they do, it is predicted here that

1. Pre-aspiration and breathiness will be subject to the same segmental conditioning, or show a complementary pattern.

2. Either can be conditioned phonetically or phonologically; however, if they function as a single unit, the conditioning will agree in this respect.

Two aspects of breathiness and pre-aspiration are analysed: frequency of occurrence and duration. They are examined for twelve females and six males ranging from the age of 22-90. All subjects are L1 Welsh speakers and were raised in Aberystwyth.

For the male data, the tokens considered present a combination of /a/ and /ɪ/ combined with /p/, /t/, and /k/ in monosyllables and disyllables, e.g. cat, catty. For the female data, all short vowels which can occur in a stressed syllable, as well as /o:/ and /a:/, were included in the analyses. In addition, monosyllabic tokens with a post-tonic fricative were collected for each respondent, controlling for the place of articulation of the consonant as well as the preceding vowel phoneme. Each type was uttered once in isolation and twice in a carrier sentence Say___ once. For each male respondent, 269-280 tokens were obtained. For each female respondent, 615-700 tokens were obtained.

The variables tested include phonetic and phonological height (F1 vs ‘low’, ‘mid’, ‘high’), phonetic and phonological backness (F2 vs ‘front’, ‘central’, ‘back’), phonetic vowel duration and phonological vowel length, and the place and manner of articulation of the following obstruent.

Before plosives, pre-aspiration duration is conditioned by various factors, such as vowel height of the preceding vowel, place of articulation of the following plosive, and, for some respondents, vowel backness and vowel length as well. In comparison, breathiness duration is not conditioned by any of these. Comparable results have been found for the frequency of pre-aspirated tokens; nevertheless, presence of breathiness is not sensitive by any of the conditioning factors included in the analyses.

Pre-aspiration duration is furthermore conditioned phonologically regarding vowel height and length, whereas breathiness duration shows sensitivity only to phonetic vowel duration.
In Aberystwyth English, then, breathiness and pre-aspiration do not seem to function as a single unit. The results suggest that breathiness is a mere articulatory transition, and is presumably part of the vowel, whilst, based in the segmental conditioning, pre-aspiration may be part of the vowel or of the consonant, and it also differs from breathiness in that it is represented in the phonological output.

References
