

## Durational enhancement as the cause of vowel quality correlations with Limburgian tones

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Two seemingly unrelated allophonic vowel quality differences occur both in English and in Limburgian. These are raising of monophthongs and monophthongization of diphthongs (A), or conversely, lowering of monophthongs and strengthening of the second elements of diphthongs (B). In English, A occurs in vowels preceding voiced obstruents, while B affects vowels before voiceless obstruents; in Limburgian, A occurs in syllables with word accent 2 ('sleeptoon'), while B occurs in syllables with word accent 1 ('stoottoon'). It will be argued that explanations of these vowel quality shifts are only indirectly related to the laryngeal contrast in English and the tone contrast in Limburgian, and that they are instead to be explained as enhancements of a phonetic feature that enhances the laryngeal and tonal contrasts in the two languages: duration. Vowel raising and lowering occurred in earlier stages of the languages to enhance duration contrasts, reflexes of which are found today in the English Great Vowel Shift and similar changes in German and Dutch, as well as the difference between tense and lax vowels in these languages.