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On Nasal Onset Time (NOT) duration of French nasal vowels in
function of the preceding consonant types

Julie Montagu

Laboratoire de Phonétique et Phonologie UMR 7018-CNRS/Université Paris 3, 5, rue des Bernardins, 75005
Paris, France

Aerodynamic requirement, a high intra-oral air pressure (P_{io}), for the production of stop and fricative consonants delays the nasalization (velum opening) of the subsequent nasal vowel. We call this time delay between the onset of the nasal vowel and that of its nasalization as Nasal Onset Time (NOT). The NOT was expected to be longer after voiceless consonants (higher P_{io}) than after voiced counterparts. The measurement of NOT on simultaneous recordings of speech and nasal signals for 24 Parisian speakers have unexpectedly shown that a greater NOT after voiced stops (38 ms in average corresponding to 17 % of total nasal vowel duration) and voiced fricatives (7%) than after voiceless ones, respectively, 14.5 % for stops and 4.1 % for fricatives. This order is observed regardless of changes in speech rate: NOT is 11.1 % with the voiced and 9.3 % with the voiceless stops in slow, 17 % and 14.5 % in normal, and 22.4 % and 18.6 % in rapid rate. These results suggest that not only the P_{io} , but also some other factors are involved in the determination of NOT. We shall discuss possible such factors in perception and in production.