

An Aerodynamic, Fiberscopic, Acoustic and Perceptive Study of the Nasal Vowels of French

Our research deals with an aerodynamic, fiberscopic, acoustic and perceptive study of the nasal vowels of French. The aerodynamic data show that the carryover of the nasal airflow (NAF) is more important than the anticipation. In spontaneous speech, we find less delay than in read speech. With the fiberscopic results, we confirm that the movements of the velum start before the onset of the vowel. In spontaneous speech, we found few items with a complete closure of velum before the offset of the vowel. The aerodynamic data together with the fiberscopic data show that there is no timing between the opening of the velopharyngeal port and the beginning of NAF. The acoustic data show a correlation between the acoustic signal and the beginning of NAF for two vowels ([ɛ̃] and [œ̃]). We do not find a correlation between the beginning of velar movements and the acoustic signal. The results of perception tests suggest that NAF is not the primordial feature to discriminate the nasal vowel.