The Time Course of Phonological Encoding during Speech Production Estimated from Event Related Potentials

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Abstract:
One central question in psycholinguistic research is when the various types of information (conceptual/semantic, syntactic, and phonological) involved in speaking become available during the process of speech planning. Here we investigated the relative time course of phonological encoding in an implicit picture-naming task in Dutch using event-related brain potentials (ERPs). Participants saw a series of pictures and made dual choice go/no-go decisions about each picture name's stress position (whether the depicted item had initial or final stress; e.g., "lépel" [initial stress] vs. "libel" [final stress]) and the syllabic position of the first post-vocalic consonant (whether this consonant belonged to the first or to the second syllable; e.g., kánsel [the "n" belongs to the first syllable] vs. káno [the "n" belongs to the second syllable]). We will present data derived from the N200 (related to response inhibition) that support the distinction of two independent processes in phonological encoding during speech production. The results will be discussed in relation to a theory of speech production.