

Phonemic errors with words but semantic errors with numbers: is number production special?

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Paradoxically, brain-damaged people with impairments in the phonological output buffer produce phonemic paraphasias with content words (e.g., bitar-butter) but semantic paraphasias with number words (e.g., twenty five-thirty eight). This is known as the Stimulus Type Effect on Phonological and Semantic errors (STEPS). Explanations for this phenomenon consider that preassembled phonological representations exist for numbers but not for content words in the phonological output buffer. Here we explore two alternative hypotheses based on the existence of two methodological confounds: numbers are always presented in homogeneous blocks and words in heterogeneous blocks; number words are usually word sequences that are compared to single content-words. Two conduction aphasics took part in the study. Experiment 1 did not confirm the role of lists in causing the STEPS. Experiment 2 found more semantic paraphasias (compared to phonemic paraphasias) both in the repetition of multi-digits (e.g., 673) and, more importantly, in the repetition of color word sequences (e.g., red-blue-green). The STEPS arises as consequence of differences in resource demands. Number words have not a special status in the phonological output buffer.