96. Speakers are sensitive to prediction mismatches between two cues to grammatical category in spontaneous speech

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Speakers and listeners have a shared goal: trying to successfully communicate. Speakers produce an encoded message and listeners attempt to decode the message. Often, speaker messages are temporarily ambiguous, and listeners use informative cues to generate expectations about the interpretation of ambiguous speech. One cue that comprehenders are able to use is a word's phonological typicality (PT), or, the degree to which the sound properties of an individual word are typical of other words in the same grammatical category [1, 2]. Prior work has demonstrated that PT can influence reaction times to words in a sentential context that is highly predictive of lexical category, and that it can bias the category to which a noun/verb homonym is assigned during on-line comprehension tasks [3, 4]. We ask whether or not speakers are sensitive to PT, and specifically, how speakers behave when the information about lexical category membership that is provided by PT conflicts with that of syntactic probability. In a conversational speech corpus, we investigated the duration of function words (FNs) in sequences of FN NOUN. We find an interaction between the bigram probability of a noun and the phonologically typical ('nouniness') of the NOUN. When a noun was unexpected, the FN was produced with shorter duration as typicality increased. As noun expectedness increased, this negative effect of typicality on FN duration decreased. The results suggest that grammatical information cascades down during the lemma selection, phonological encoding, and articulation processes, consistent with cascading activation models of production [5].

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97. Syntactic and Semantic Effects on the Production of Ordering Errors

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The production of ordering errors is influenced by syntactic and semantic properties. Error rates are affected by semantic integration, the degree of conceptual relatedness between utterance constituents (DiBattista & Pearlmutter, 2011; D&P). Errors typically occur between constituents with the same grammatical class or syntactic role (Garrett, 1975). Extending D&P's and Garrett's research, two experiments investigated the effects of integration, description preference, and syntactic similarity on ordering error production. In Experiment 1, participants described pictures of common objects (e.g., a spot on an apple; a shelf above a sink). The responses varied in integration, preference, and similarity. Integration and preference were determined by prior norming. Similarity was determined by color scheme, which elicited syntactically homogeneous ("the brown spot on the blue apple"; "the spot on the apple") and heterogeneous ("the brown spot on the apple"; "the spot on the blue apple") responses. Ordering errors increased with integration and similarity and decreased with preference. The syntactic similarity manipulated in Experiment 1 was confounded with semantic similarity: It varied based on the presence or absence of an attribute (a color word) in each NP. In Experiment 2, similarity was manipulated by the location of an adjective before the noun, or after the noun in an RC. Participants produced homogeneous ("the brown spot on the blue apple"; "the spot that's brown on the apple that's blue") and heterogeneous ("the spot that's brown on the blue apple"; "the brown spot on the apple that's blue") responses. Errors increased with integration and decreased with preference. The homogeneous condition elicited more errors than the heterogeneous condition, but the effect was nonsignificant. Therefore, Experiment 1's similarity effect may have been semantic, rather than syntactic, in origin. Potential effects of the overall complexity of the responses and the difficulty of the task will also be discussed.