Experiments

Speakers produce words to express a particular meaning. But do speakers only select words on the basis of what they mean? Follows from the arbitrariness of the meaning-sound relationship. Or is lexical selection also affected by how to-be-produced words sound? Production may be more fluent if speakers can select a word on the basis of how it sounds in addition to what it means.

Evidence from speech errors:

Semantic word-substitution errors:

For example, “I need the nun... I mean the priest.”

Semantic similarity is preserved; suggests that lexical selection is sensitive to the meaning that a speaker intends to express.

Phonological word-substitution errors (“malapropisms”):

For example, “I need the anecdote... I mean the antidote.”

Phonological similarity is preserved; suggests that lexical selection is sensitive to the sounds that a speaker attempts to retrieve.

Explanations:

Semantic word-substitution errors arise at the first step of lexical selection (lexical selection).

Malapropisms arise at the second step of lexical selection (phonological word-form selection).

To assess the semantic and phonological sensitivity of lexical selection, we primed direct- and phonologically mediated-semantic competitors as speakers named targets in a picture-naming task.

Task, design, and hypotheses

Speaker reads cloze sentence | Speaker names | Correct response | Intrusion | Hypotheses |
--- | --- | --- | --- | --- |
Direct competitor conditions | The woman went to the convent to become a... | "priest" </i>/nəʊt/ | "nun" is a direct semantic competitor of "priest" |
Control | He lit the candle with just one... | "priest" </i>/maɪtʃ/ | |
Homophone competitor conditions | I thought that there were still some cookies left, but there were... | "priest" </i>/nəʊt/ | "none" is phonologically mediated semantic competitor of "priest" |
Control | Debbie returned the blouse to the store because the colors just didn’t... | "priest" </i>/maɪtʃ/ | |

As long as the two stages of word production are independent, then the first stage of lexical selection is only sensitive to alternatives that are available because of their semantic similarity, or both...

Suggests that speakers select which word to produce only based on what it means.

But if these two stages are not independent, then the first stage of lexical selection may be sensitive to alternatives that are available because of their phonological similarity, their semantic similarity, or both...

Suggests that speakers select which word to produce only based on what it means and how available its sounds are.

To look at this, we investigated the production of homophones:

For a target word like "priest":

One homophone word (e.g., "run") is only semantically similar.

Called a direct semantic competitor.

The other (e.g., "none") is phonologically identical to a semantically similar word.

Called a phonologically mediated semantic competitor.

In all experiments:

Direct-competitor intrusions were more likely than unrelated intrusions.

Homophone-competitor intrusions were more likely than unrelated intrusions.

Conclusions and implications

Direct semantic competitors were often erroneously produced during word production.

Suggests that word production is sensitive to semantically available, semantically similar alternatives.

Thus, lexical selection is (at least) guided by intended meaning.

Converges with evidence from semantic word-substitution errors.

Phonologically mediated semantic competitors are often erroneously produced during word production.

Suggests that word production is sensitive to phonologically available semantically similar alternatives.

Processing levels of word production are not independent.

Lexical selection is sensitive to the availability of words based on meaning and sound.

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