

Language Production - Lexicalization

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Lexicalization

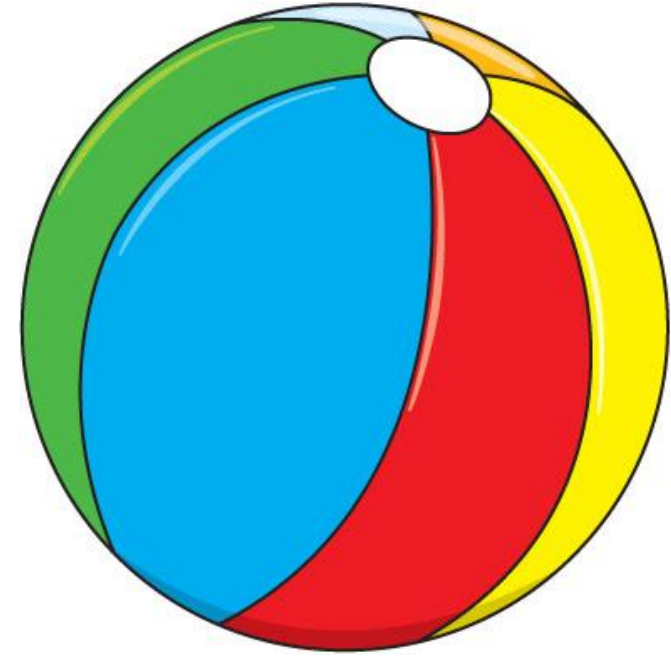
- Lexicalization has been shown (as has everything else) to be a highly **parallel** and **interactive** process
- Some evidence for this comes from speech errors
- If lexicalization is parallel, we would expect the phonological form of semantic competitors to affect language production
 - e.g., the production of *sheep* could be affected by phonological elements of the word *goat*
 - And *sheep* might then be able to prime *goal*
 - But perhaps that's actually too far

Lexicalization

- A **cascade model** of lexicalization aims to describe the interactions possible in the process
- Activation can cascade from one level to the next because the stages overlap temporally

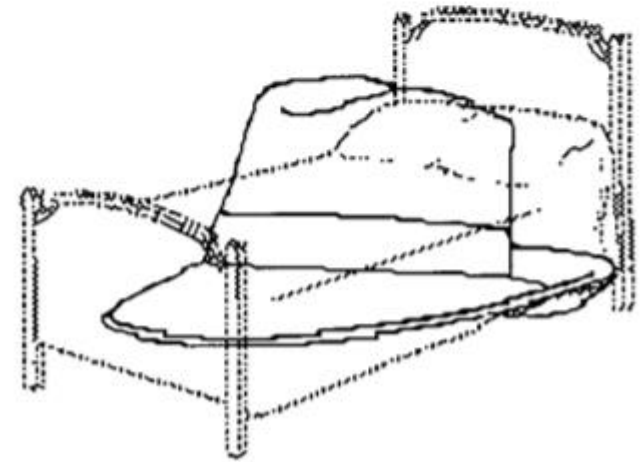
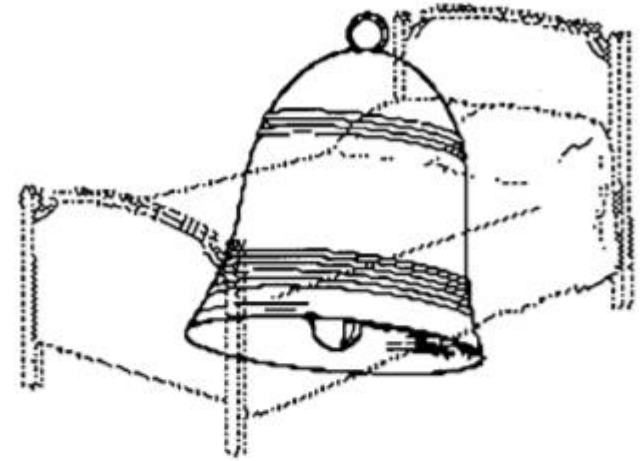
Lexicalization

- Cutting & Ferreira (1999): picture naming task with homophones
 - Auditory stimulus 150ms before picture, then name the picture as fast as possible
- The word *dance* as an auditory prime facilitated faster naming of *ball* →
- Evidence of a phonologically-related distractor causing early influence



Lexicalization

- Morsella & Miozzo (2002) picture naming task with superimposed pictures – name one and ignore the other
- Response times were faster when the two words were phonologically related
- Again, evidence that the phonology of unselected lexical items can still affect language production



Lexicalization

- Naming tasks with bilinguals show evidence of overlap as well
 - Cognate words result in increased activation for shared phonemes, suggesting spreading activation from phonological representations of words in another language (Costa et al., 2000)
- Ample evidence that lexicalization is **parallel**
- [What do cows drink?](#)

Lexicalization

- What about interactivity?
- Our stages overlap, but do they feed forward only? Or do they feed backwards as well?
- **Lexical bias effect**

Lexical Bias

- **Lexical bias effect** – Speech errors result in real words more likely than is statistically probable
- Of all the phonologically-valid speech errors possible for a given word, a certain percentage of them should result in real words
- The actual number of speech errors that result in real words is significantly higher than that percentage

Lexical Bias

- **Lexical bias effect** – Speech errors result in real words more likely than is statistically probable
- Of all the phonologically-valid speech errors possible for a given word, a certain percentage of them should result in real words
- The actual number of speech errors that result in real words is significantly higher than that percentage
- How does this show evidence of interactivity?

Spoonerisms

Lexical Bias

- Speech errors can even be primed in an experiment – SLIP technique (Spoonerisms of Laboratory Induced Predisposition)
- SLIP technique essentially recreates that in a lab:
 - Read a list
 - dawn boat
 - dark boast
 - dart bone
 - Produce a pair
 - barn door

Lexical Bias

- Read a list aloud
 - dawn boat
 - dark boast
 - dart bone
 - Produce a pair
 - barn door
- OR
- barge dope

Lexical Bias

- Read a list aloud
 - dawn boat
 - dark boast
 - dart bone
- Produce a pair
 - **barn door** → **darn bore**
OR
 - barge dope → darge bope

Lexical Bias

- If we want to say *barge dope* and accidentally say *darge* – this can be described as increased (too much) activation of the /d/ phoneme at exactly the time when we're supposed to pronounce /b/
- This could happen for a few reasons
 - Upon seeing “barge dope,” we might have increased activation for *dope* because it's more frequent than *barge*, or because /d/ is a more frequent sound than /b/ → then resulting in increased activation for /d/
- Activation for /b/ is still fairly high, so it replaces where /d/ should have gone

Lexical Bias

- With the SLIP method, a certain pattern is primed
 - /d/ word /b/ word
- When we read “barge dope,” activation flows back up to the lexical level
 - So in addition to *barge* and *dope*, also activated here would be *large*, *cope*, *bard*, *dole*
 - These competitor words are receiving less activation (though not none)
- People can still usually pronounce the pair correctly, but a small percentage of the trials will show spoonerism errors
- Why is this more likely for “barn door” than “barge dope?”

Lexical Bias

- What's the “competitor” activation set when we read “barge dope?”
 - *darge, bope*
 - *large, cope, bard, dole*, etc.
- What's the “competitor” activation set when we read “barn door?”
 - *darn, bore*
 - *yarn, more, bard, dole, darn, bore*, etc.

Lexical Bias

- What's the “competitor” activation set when we read “barge dope?”
 - *darge, bope*
 - *large, cope, bard, dole*, etc.
- What's the “competitor” activation set when we read “barn door?”
 - *darn, bore*
 - *yarn, more, bard, dole, **darn, bore***, etc.
- *darn* and *bore* are getting double-activation!
 - “super-competitors”
- This only works if there's feedback from phonological level back up to the lexical level

Lexicalization

- Fairly high rate of **mixed errors**, too – errors that involve both sound and meaning components
 - let's stop → let's start
 - I miss my cat → I miss my rat
 - look it up in the directory → look it up in the dictionary
 - that's a phonological issue → that's a psychological issue
 - many of us were in Rome for the pope's funeral → president's funeral

Lexicalization

- Fairly high rate of **mixed errors**, too – errors that involve both sound and meaning components
- Because there is both phonological and semantic activation (like in the rat/cat) example, we again have super-competitors and these errors are more likely than expected by chance
 - I miss my cat
 - I miss my rat
 - I miss my dog
 - ?I miss my vat

Wagner-Altendorf et al. 2020

- Read this paper!
 - It's required
 - It's brief
 - It's interesting
 - It's funny