# Language Production

LIGN 170, Lecture 10

# Linguistic Communication Loop

**Speaker**

1. Message: What needs to be communicated?

2. Encode message into linguistic form

3. Encode linguistic form into speech (motor system)

**Hearer**

4. Sounds go from speaker's mouth to hearer's ear (auditory system)

5. Speech decoded into linguistic form

6. Linguistic form decoded into meaning

# Today

- Speech errors

- Maybe introduce model of production

# Speech Errors

- Occasionally, fluent speech can contain errors

  - Nature of these errors can be help us understanding how the speech system is organized

- Any model of language production has to be able to account for how these errors happen

# Errors & units of speech

- When speech segments are produced incorrectly they become more identifiable as separable units than in fluent speech

- We can see from speech errors that language is produced in some hierarchical manner, because you find errors at different levels of granularity

  - phonetic features, phonemes, words, phrases...

# Parade of errors

*Segments*

- Basic kinds of errors:

  - Anticipations

    - A segment appears too soon

  - Perseverations

    - A segment (re)appears too late

  - Exchanges

    - Two segments are swapped

# Phonemic Segment Errors

- Perseveration errors

  - Sound appears later than it should

    - ┤ a phonological rule

    - ┤ a phonological fool

    - ┤ annotated bibliography

    - ┤ annotated babliography

# Phonemic Segment Errors

- Perseveration errors

  - Sound appears later than it should

    — a phonological rule

    — a **ph**onological **f**ool

    — annotated bibliography

    — **a**nnotated b**a**bliography

# Phonemic Segment Errors

- Deleted (or added) phonemes

  ⊣ speech error

  ⊣ __peach error

# Phonetic Feature Errors

- Distinctive features

    +/- oral, voice, continuant, etc

- Exchange (Voicing):

    big and fat    **+voice**     **-voice**

    pig and vat    **-voice**     **+voice**

# Syllable Errors

- Syllables as level of production

- Deletion:
  - una**ni**mity of opinion
  - una__mity of opinion

- Rare compared to other errors

  - Exchanges occur with syllables in the same word position – first/first, second/second, etc.

# Stress and Tone Errors

eCOnonmists

ecoNOMists

phoNEtic

PHOnetic

- In tone languages, there are errors in tone that change the meaning of the word

# Word/Morpheme Errors

- Word:

- Movement/exchange:

  I really must go

  I must really go

# Word/Morpheme Errors

- Morphemes- Inflectional:

    I'd forgotten about that

    I'd forgot__ about**en** that

    It's not only us who have screws loose

    It's not only us who have screw_ loose**s**

# Word/Morpheme Errors

- Morphemes- Derivational:

  ⊣ easily enough

  ⊣ easy enough**ly**

  ⊣ there's a good likelihood

  ⊣ there's a good likeli**ness**

  ⊣ they can't quite make it

  ⊣ they can't quite**ly** make it

# Word/Morpheme Errors

- Words with morphemes

  - Morphemes can remain in place

    —⊣ I certainly want to go

    —⊣ I wantly certain to go

# Different segments of errors

- Feature-level

- Phoneme-level

- Syllable-level

- Word/Morpheme-level

  - Production system must assemble speech in a way that allows for possible errors at each of these levels

# Parade of errors

*Advance planning*

# Anticipations/exchange errors

- Spoonerisms:  Named after William Spooner – head of New College at Oxford College in the early part of the 20th century

| Intended utterance | Actual utterance |
| --- | --- |
| You have missed all my history lectures | You have hissed all my mystery lectures |
| Noble sons of toil | Noble tons of soil |
| You have wasted the whole term | You have tasted the whole worm |
| The dear old Queen | The queer old dean |

# Anticipations/exchange errors

- Spoonerisms:

- Swapping the initial sound of words

  - Resulting strings of letters are still words

# Anticipation errors

Sounds appear sooner than they should

— a reading list

— a **l**eading list

— box of flowers

— b**l**ocks of flowers

— Sue weeded the garden

— **sea** weeded the garden

— He's a vile person

— He's a **f**ile person

# Exchange errors

brake fluid

blake fruid

drop a bomb

bop a dromb

A hummingbird was attracted by the red color of the feeder

The red color was attracted by a hummingbird of the feeder

# Planning speech

- So - how far in advance do we plan?

    - From how far away are exchanges and anticipation errors made?

    - Mostly within clause

# The importance of clauses

- Clause internal bias for errors

  - Word exchange errors

    - 85% of word exchange errors occur within a single clause

    tend to turn out

    turn to tend out

# The importance of clauses

- Self-corrections – monitoring

  - Speaker notices an error and corrects it

- Corrections more likely at beginning of a constituent than at the actual error site

  - Speakers backtrack to the beginning of the constituent containing the speech error

  The doctor looked up Joe's nose – that is, up Joe's left nostril.

# The importance of clauses

- Disfluencies: hesitations, repetitions, false starts, filled pauses, unfilled pauses

  - Taken as evidence for processing difficulty

    - More unfilled pauses and filled pauses for syntactically complex speech

    - Unfilled pauses more likely before less frequent words

- Pauses more likely to occur at clause boundaries

# Adding semantic errors to the mix

- Lexicon is organized both semantically and phonologically

  - Semantic substitution errors

    - That's a horse of another color

    - That's a **horse** of another **race**

    - Too many irons in the **fire**

    - Too many irons in the **smoke**

# Adding semantic errors to the mix

- Lexicon is organized both semantically and phonologically

  - Phonological substitution errors

    - At 4:30 we're adjourning the meeting

    - At 4:30 we're adjoining the meeting

    - Gin and tonic

    - Gin and topic

# Adding semantic errors to the mix

- Mixed (both) substitution errors
  - ⊢ Arrested and prosecuted
  - ⊢ Arrested and persecuted
- Semantic blend
  - ⊢ grab + reach      greech
- Semantic and phonological blend
  - ⊢ stiffer + tougher      stuffer

# Morphological information

- Morphological information is assembled during production

  - Not taken whole from the lexicon

- Evidence: regular/irregular errors

  ─┤ The last I knew about it

    ─┤ I know**ed** about it

  ─┤ She was so drunk when she called him

    ─┤ She was so dr**a**nk when she called him

# Morphological information

- Evidence: Floating morpheme errors

  ⊣ cow tracks     track cow**s**

- Evidence: Word errors that respect phonological / morphological rules:

  ⊣ a watched pot never boils

  ⊣ a pott**ed** watch never boils

- Notice that the morphemes are pronounced properly

# Parade of errors

*Form vs. Meaning*

# A question of number

- In English, the verb must "agree" with the number of the subject noun

- The army was advancing across the field.

- The choir was hard at work in the practice room.

# A question of number

- Yet, a BBC newscaster may well say:

- The army were advancing across the field.

- The choir were hard at work in the practice room.


- Question: Why are these grammatical in British English?

# A question of number

- Notional and grammatical number can differ

- Notional number:

  - Actual number of things you are referring to

- Grammatical number:

  - Grammatically-realized number

# A question of number

- Collective nouns – *army, team, choir*

  - grammatically singular, but can be notionally plural

- Invariant plural nouns – *scissors, pliers, binoculars, pants*

  - grammatical plural, but notionally singular

# A question of number

- Errors of crossing the two kinds of the number:

  - one in three Texans are functionally illiterate

- Grammatical: "one" is singular

- Notional number: There are a large number of illiterates - signals that it should be plural

# Other kinds of number problems

- Alternatively...

  - Plurality of the local noun in complex NPs

- Attraction to closer NP number:

  The key to the cabinets were hidden carefully.

  The breaking of relations in themselves- in itself...

# Number agreement errors

- Conflict between grammatical and semantic (notional) number

- Attraction of agreement with closest noun (even when incorrect)