

Naming processes



Steps involved?

Naming processes



Visual analysis

*symmetry, color, central
section*



Semantic rep

*insect
colorful wings*



Phonological rep.

“butterfly”

Evidence for two steps (semantic, then phonological)

1. Anomic patients
2. Tip-of-the-tongue state in normal subjects
3. Experimental data from picture naming

Patient MS:

Herpes encephalitis

Left temporal lobe damage

Picture naming responses:

Frog:

(Makes sound of frog croaking.)

These are things that you eat their feet. It's an animal. You can eat the feet, but you can't eat the body. It'll jump on the ground.

Turkey:

It's like a bird but doesn't fly. It's a good eating bird. You can eat it for Christmas. Thanksgiving is usually the time for this one.

Tip-of-the-tongue state in normal subjects

William James (1890):

“Suppose we try to recall a forgotten name. The state of our Consciousness is peculiar. There is a gap therein: but no mere gap. It is a gap that is intensely active. A sort of wraith of the name is in it, beckoning us in a given direction, making us at moments tingle with the sense of closeness, and then letting us sink back without the longed-for term...”

TOT studies:

Brown & McNeill (1966)

Given definition for obscure word:

“Inscription on a tomb”

“Navigational instrument for measuring the angular elevation of the sun or a star”

Subjects provide some information: initial sound, number of syllables, even gender (in Italian, Spanish)

Epitaph

Sextant

The Time Course of Semantic and Phonological Processing

Schriefers, Meyer, & Levelt (J. of Memory & Language, 1990)



Picture naming task

Auditory distractors

- 1) unrelated: candle
- 2) semantically related: spider
- 3) phonologically related: button

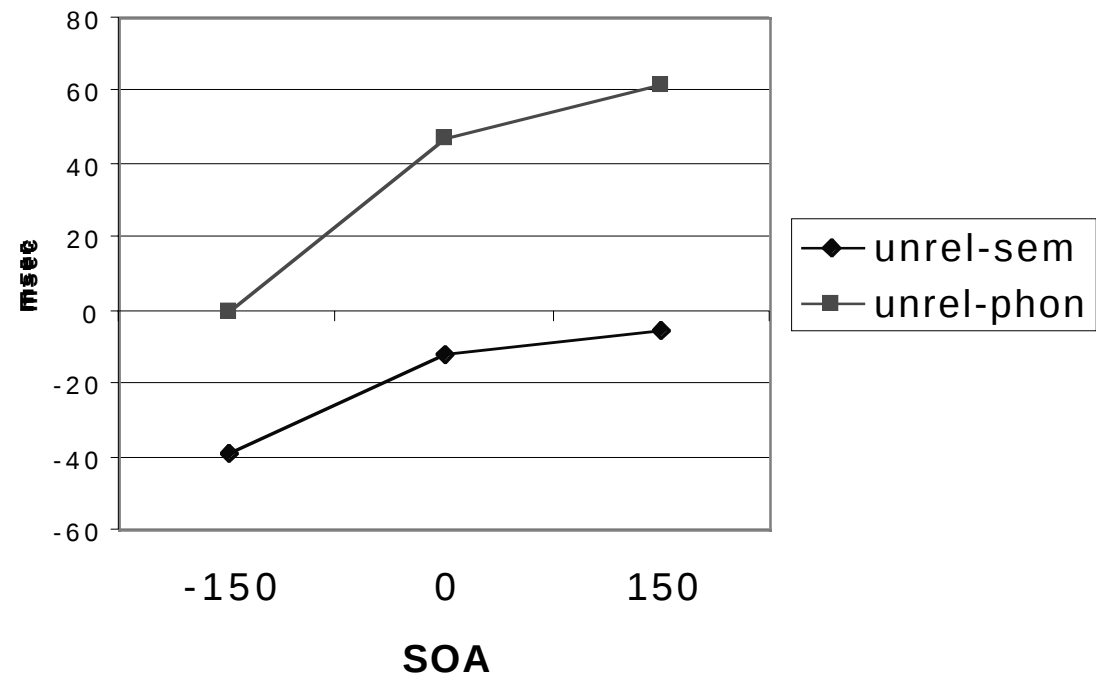
Timing of distractors relative to picture onset:

-150, 0, +150

Schriefers et al. (1994) results
Picture naming times in msec

	<u>-150</u>	<u>0</u>	<u>150</u>
Unrelated	629	656	609
Semantic	668	668	614
Phonological	629	609	547

Rt differences from unrelated



Summary of single word production:

Two steps in picture naming

A. Semantic stage

B. Phonological stage

Evidence from Speech Errors

Word Errors

Substitutions

T - Either believe me or say I'm lying.

A - Either believe me or say I'm telling the truth.

T - Dog!

A - Cat!

T - I'm going next month

A - I'm going next week

I'd like to introduce the leader of Israel . . . er . . . Egypt. (George Bush)

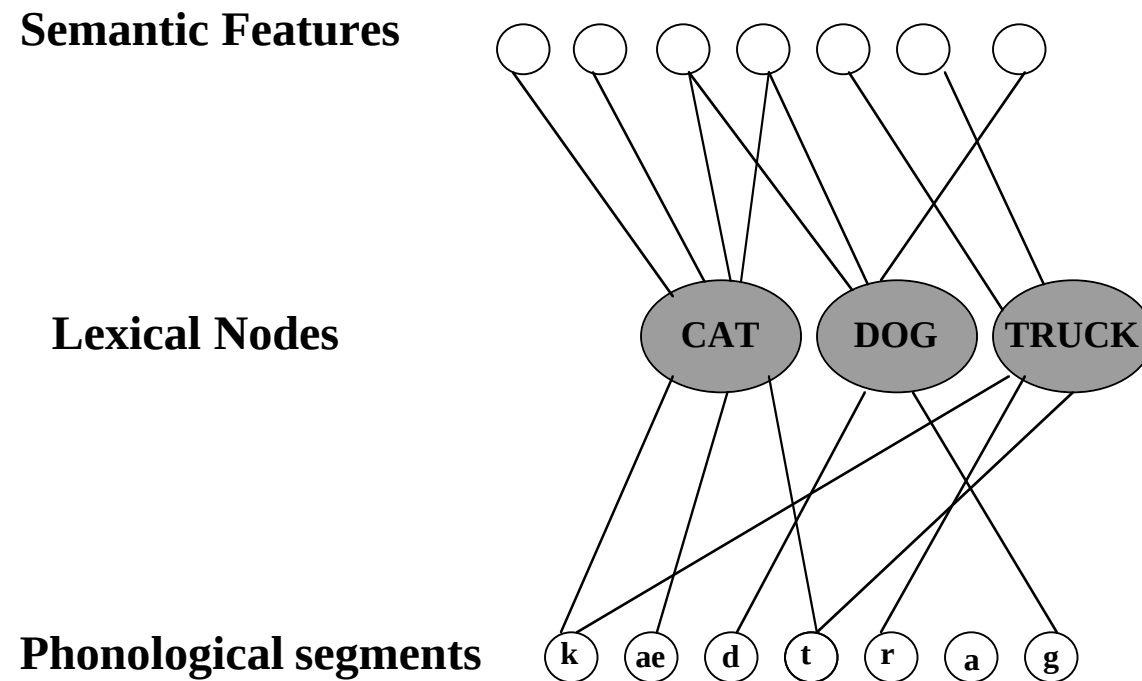
Blends

Their concern with the the youngth of today. (Youth, young)

In a parking splace (space, place)

There she goes scrying. (crying, screaming)

Dell & O'Seaghdha (1994)



Sentence Production

Beginning research focused on speech errors

More recent experimental

Questions:

1. Stages in production process
2. Scope of planning
3. Interaction vs. modularity

Examples of Sentence Level Speech Errors

They hissed my mystery lectures. (attributed to Prof. Spooner)

She wore a gownless evening strap. (from Freud)

Freudian Slips?

Stages in production process an issue because:

1. Simultaneity of ideas to be expressed in clause, sentence
2. Transform to linear sequence of words
3. Word choice, grammatical structure to be planned

Sound Exchanges

T - Be careful on the slick streets.

A - Be careful on the strict sleets.

T - His first perception was ...

A - His first ferception was ...

Garrett -

T - Children interfere with your night life

A - Children interfere with your light knife.

Properties of Sound Errors

strict sleet, first perception, knife light

1. Distance?
2. Position?
3. Similarity? (phon vs. semantic)

Properties of Sound Errors

strict sleets, first ferception, knife light

1. Distance? Nearby - adjacent words

2. Position? Similar position in word

3. Similarity? (phon vs. semantic)

tend to occur between words with some phonological similarity,
semantic similarity not relevant, grammatical class not relevant

Word Exchanges

T - I'll take my check to the bank.

A - I'll take my bank to the check.

T - I won't go to the grocery store to buy

A - I won't buy to the grocery store to go....go to the grocery store to buy

T - Did you ask her why my room matched my personality?

A - Did she ask you why my room matched my personality?

T - My room's empty without my chair.

A - My chair's empty without my room.

T - "Shake it up" came out.

A - "Shake it out" came up.

Properties of Word Exchanges

check-bank, go-buy, you-her (she-you), room-chair, up-out

1. Distance

2. Similarity

- a. Phonological?
- b. Semantic?
- c. Grammatical class?

Properties of Word Exchanges

check-bank, go-buy, you-her (she-you), room-chair, up-out

1. Distance - greater distance than sound errors, can be far apart

2. Similarity

- a. Phonological? - not evident
- b. Semantic? - some similarity or relatedness
- c. Grammatical class? - matching grammatical class

Different properties for sound and word exchange errors

Therefore, occurring at different stages in production process

Stranding errors

T - The warden warrants his lockup.

A - The warrant wardens his lockup.

T - He needed some cash.

A - He cashed some need.

T - You have to face it squarely.

A - You have to square it facely.

Properties of stranding errors:

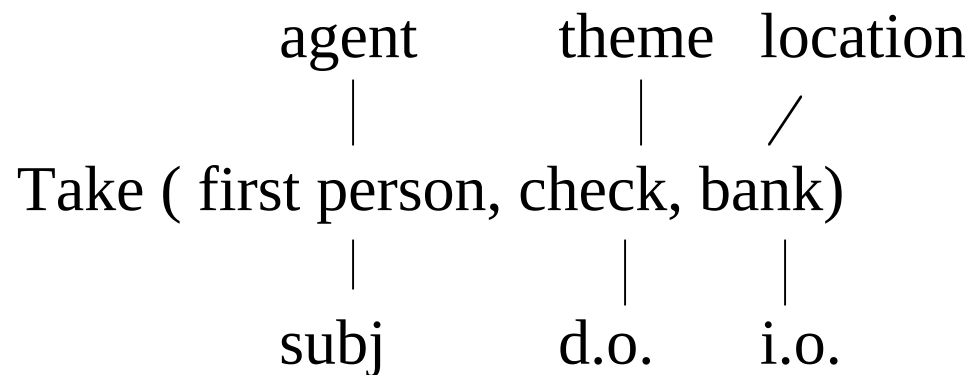
1. Distance
2. What is stranded?
3. Phonological effects

Properties of stranding errors:

1. Distance - within 1-2 words
2. What is stranded? - inflection or derivational ending
3. Phonological effects - inflection pronunciation depends on error it gets attached to. Implies that phonology retrieved after error is made.

Word exchanges occur at a stage where words that end up being distant in speech are close together in mental representation -

E.g. propositional (functional) representation being planned



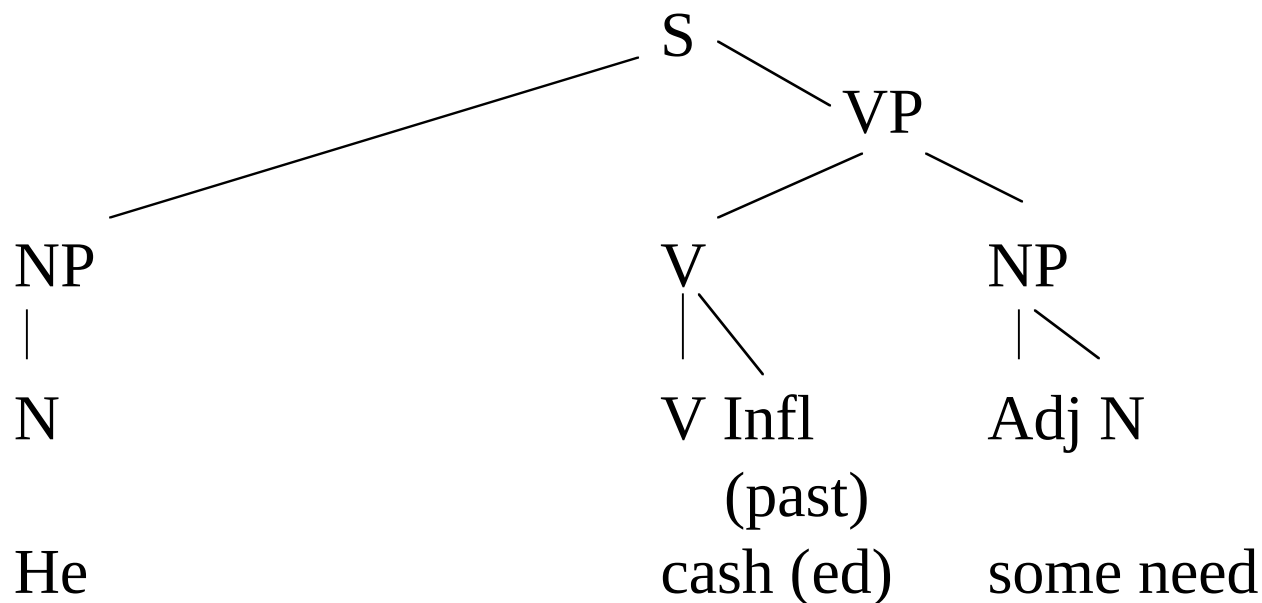
Sound not planned at this point, since sound not relevant to error

Stranding errors -

Also occur before sound planning since error determines pronunciation of inflection

At a stage where syntactic structure planned (including inflections) and lexical items inserted into it.

He cashed some need.

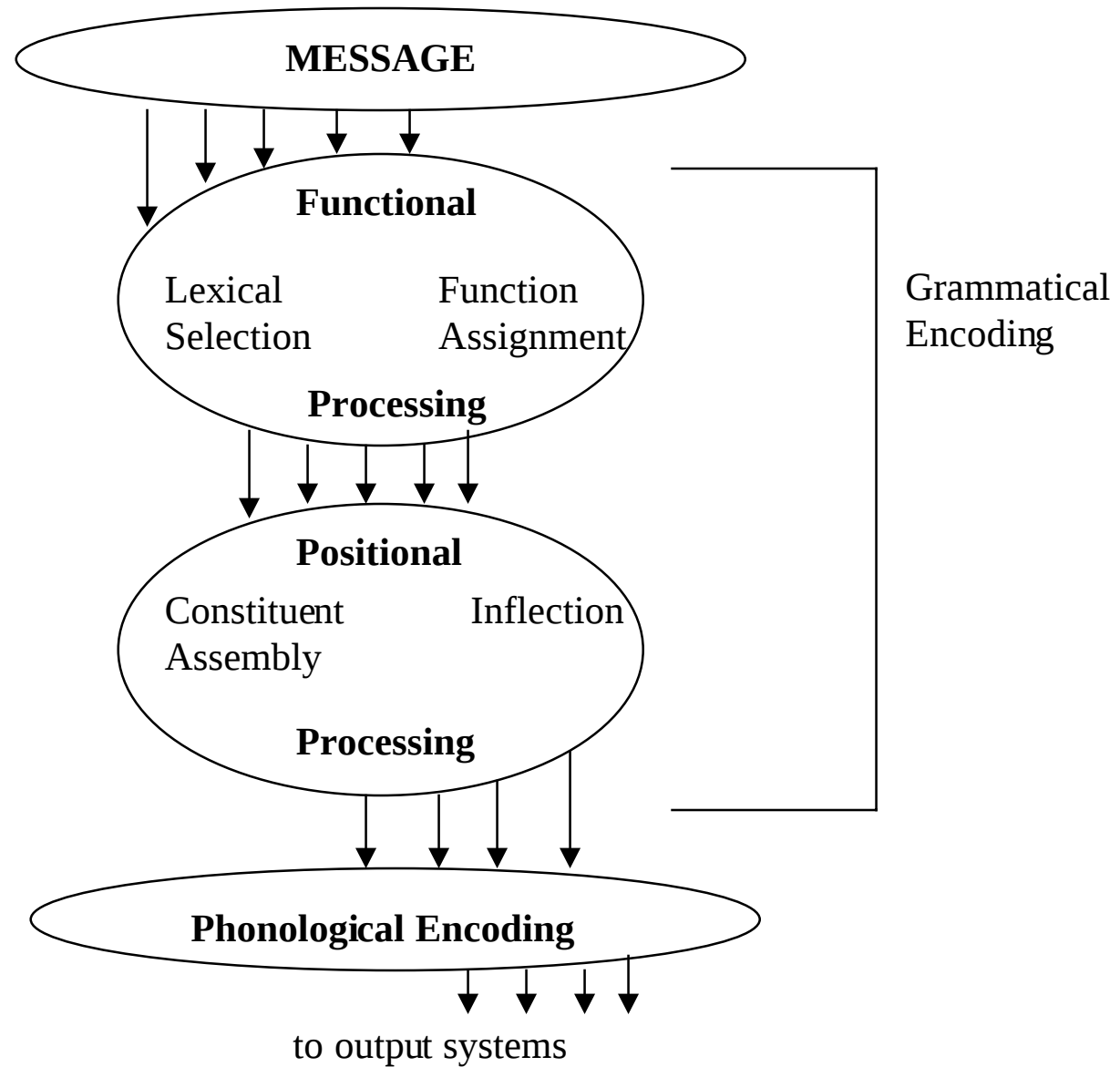


Sound Errors

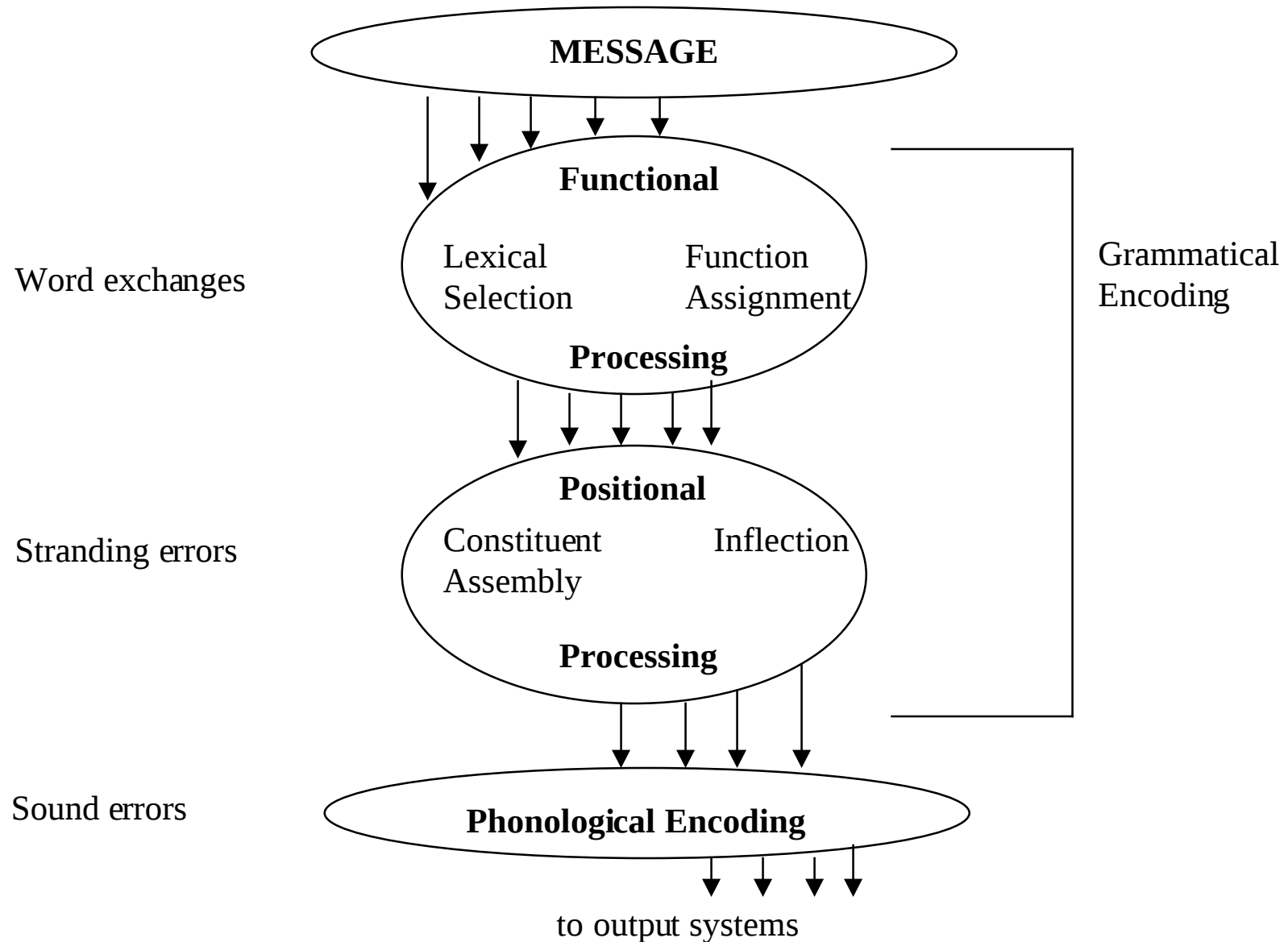
Occur later, over smaller distance

Suggest phonological planning occurs for only a few words at a time

Bock and Levelt (1994) Model of Speech Production



Bock and Levelt (1994) Model of Speech Production



Model is modular

Are there interactions between levels?

Baars, Motley, MacKay (1975)

Elicited speech errors

Condition 1

Condition 2

big Dutch

big Dutch

best doll

best doll

bill death

bill death

bark dog

bark dog

dart board

darn bore